International Commission on Zoological Nomenclature
Special Session of the Commission – Paris, France

Saturday 23–Monday 25 August 2008

Commissioners present:

Denis Brothers – President, Miguel Alonso-Zarazaga, Nina Bogutskaya, Philippe Bouchet, Daphne Fautin, Maurice Kottelat, Frank Krell, Sven Kullander, Susan Lim, Richard Pyle, Gary Rosenberg, Jan van Tol and Zhi-Qiang Zhang.

Apologies had been received from Mark Grygier, Bruce Halliday, Gerardo Lamas, Peter Ng, Thomas Pape, László Papp, David Patterson and Pavel Štys.

ICZN Secretariat participants:

Ellinor Michel and Natalie Dale-Skey.

Outside participants and observers:

Donat Agosti, *Plazi* (Sunday & Monday), Edward Dickinson, *Howard & Moore Checklist of Birds* (Monday), Catriona MacCallum, *PLoS Biology* (Sunday &

ICZN Special Session, Paris, 23–25 August 2008 – Commissioners and Secretariat at work. Clockwise from top left: Denis Brothers (President), Gary Rosenberg, Miguel Alonso-Zarazaga, Richard Pyle, Philippe Bouchet, Daphne Fautin, Susan Lim, Frank Krell, Natalie Dale-Skey, Ellinor Michel, Maurice Kottelat, Nina Bogutskaya, Zhi-Qiang Zhang, Jan van Tol, Sven Kullander (photo credits: Miguel Alonso-Zarazaga and Michael Schmitt).

Monday a.m.), David Remsen, *GBIF* (Monday), Nigel Robinson, *Zoological Record* (Monday p.m.), Michael Schmitt, *Koenig Museum Bonn* (Sunday & Monday), F. Christian Thompson, *USDA & Smithsonian* (Monday), Jonathan Todd, *Natural History Museum London* (Saturday to Monday).

The meeting was divided into five sessions on (1) Commission Business, (2) BZN Content and Future, (3) Amendments to the current Code and plans for revision of the Code, (4) Electronic Publication and (5) ZooBank. Brief reports on each session follow this summary of decisions and committees. Transcripts of all sessions were written by Dale-Skey and Michel.

SUMMARY OF DECISIONS AND COMMITTEES ICZN SPECIAL SESSION

1. Editorial Committee

(established as 'ICZN 5th Code Committee' during the ICZN general session held in Washington in 2007 (BZN **64**(3): 140–142)):

- The core membership of the 5th Code Committee agreed upon in Washington (i.e. Alonso-Zarazaga, Alberto Ballerio, Bouchet, Brothers, Fautin, Kottelat, Krell, Lamas, Pape, Andrew Polaszek, Pyle, Rosenberg and Chris Thompson) was amended to add Bogutskaya, Michel, and Svetlana Nikolaeva. After the Paris meeting Polaszek requested to be removed from the Committee. The final composition of the Committee was delegated by Brothers to Rosenberg.
- Rosenberg was appointed Chair.
- The brief of the Committee was extended to include not only production of a draft 5th Code but also consideration of the possibility of proposing amendments before the 5th Edition comes into force. As such, the name was changed from 5th Code Committee to Editorial Committee.
- The following votes (i to viii) were taken in relation to the remit of the Committee:

Structure of the 5th Code:
   (i) The Committee is authorised to have freedom of total restructuring in producing a draft 5th edition of the Code. (For: unanimous)

Items expressly referred to the Editorial Committee for consideration for the 5th Code:
  (ii) Proposal of correction of Art. 24.1 with deletion of Art. 55.5. (For: 12; Against: 1; Abstain: 0)
 (iii) Issues with types that have been released into the wild or are otherwise not available for study. (For: unanimous)
 (iv) Conflicts between French and English editions; request for ruling on definition of 'description'. (For: unanimous)
  (v) Revision of Art. 13.1.1 to eliminate or replace 'purported'. (For: unanimous)

Methods of publication:
The following decisions were made to clarify the course of the Committee in preparing an Amendment regarding methods of publication:
 (vi) Physical works that are not paper-based (e.g. CD-ROMs, DVDs) should be disallowed. (For: 10; Against: 0; Abstain: 2)

(vii) Electronic-only publications should be allowed, if mechanisms can be found that give reasonable assurance of the long-term accessibility of the information they contain. (For: 10; Against: 0; Abstain: 2)

(viii) Some method of registration should be part of the mechanism of allowing electronic publication of names and nomenclatural acts. (For: 8; Against: 2; Abstain: 2)

N.B.: one Commissioner was absent during votes vi to viii

1.1 4th Code Revision Subcommittee:

- A 4th Code Revision Subcommittee was established to ensure that, should preparation of the 5th Code be prolonged, some issues could be dealt with through declarations and amendments as appropriate.
- The following Commissioners and non-ICZN nominees agreed to serve on the Subcommittee: Bouchet, Dickinson, Kottelat, and Michel.
- The brief of the Subcommittee is to work on declarations and amendments dealing with all issues except ZooBank and e-publication (e.g. article 24.1, language, etc.).

1.2 Constitution and Bylaws Subcommittee:

- A Subcommittee to deal with revision of the Constitution and Bylaws was established.
- The following Commissioners and Secretariat nominees agreed to serve on the Subcommittee: Alonso-Zarazaga, Brothers, Dale-Skey, Grygier, Kottelat, Michel, and Rosenberg.
- Kottelat was appointed Chair.
- The brief of the Subcommittee is to draft, circulate and initiate changes in Bylaws, and make an outline of areas of focus for revision of the Constitution. A deadline for listing changes to be made to the Bylaws was set for the end of 2008.

2. ZooBank Committee

(established during the ICZN general session held in Washington in 2007 (BZN **64**(3): 140–142)):

- The core membership agreed upon in Washington (i.e. Agosti, Alonso-Zarazaga, Fautin, Krell, Kullander, Lim, Pape, Patterson, Polaszek, Pyle, Remsen, Rosenberg, van Tol and Zhang) was amended to add Bogutskaya, Brothers, Dickinson, Halliday, Yde de Jong, Kottelat, Chris Lyal, Michel, and Schmitt, and remove Simon Coppard. Other members are currently under consideration.
- Krell was appointed Chair.
- The brief of the Committee is to consider all substantive decisions on registry and implementation of ZooBank, including prospective and retrospective content of ZooBank, source, and mechanism.

3. ZooBank and Registration

- The Commission voted to confirm that it wished to pursue the exploration of ZooBank and potential registration, and that these items were referred to the ZooBank and Editorial Committees. (For: 11; Against: 0; Abstain: 2)

Summary of session on Commission Business (Session 1)

Chair: D. Brothers; Rapporteurs: M. Kottelat & E. Michel

Election of new President, Vice President & Councillors

Following Bylaw 11(b), the Commissioners appointed two members (Krell and Kottelat) to work with the Council as the nominating committee for the election of the new President and Vice-President. The nominating committee met twice and contacted the four nominees to seek their agreement to be candidates. The date of the elections for President and Vice-President was set as 1 December 2008 and start of their term of office 1 January 2009. No date for election of Councillors was set because there was no vacancy.

Election of new Commissioners

There are currently 22 Commissioners after the recent resignation of Commissioner Mawatari and deaths earlier in the year of Commissioners Kerzhner and Song. The Commission had agreed in the Washington General Session that the total number of Commissioners should be 28, thus there are six vacancies.

The Commission reviewed supporting material for 20 nominees, considering their qualifications and the Commission's needs in fields of taxonomic specialty, geographic location, particular skills and scientific social context. It was agreed that the Council will nominate 12 candidates for the election ballot from among the 20 nominees. The procedure mandated under the current bylaws presents some complications in election protocol (e.g. see below), which were discussed without finalisation. It may be necessary to revise the relevant bylaws before being able to hold a valid election, thus the date for the election was not set.

Revision of Constitution and Bylaws

Over the years, a number of problems with the Constitution and even more so with the Bylaws have been identified. Examples include 1) procedures for elections date back to a time when most elections were held during congresses, thus valid nomination and election protocol is dependent on congress attendance and schedules; 2) Commissioners' service times are calculated based on classes and particular meetings, which are very difficult to track, rather than absolute time served; 3) voting periods are long, which was justified when communication was by post, but are no longer needed with today's technologies; 4) procedures for handling cases are in some situations unnecessarily complicated and increase processing time; and 5) the absence of a dedicated discussion period before voting makes discussion of cases too unstructured.

The revision of the Bylaws is entirely under the control of the Commission and does not need IUBS ratification; this allows the Commission to move swiftly. By contrast, modifications of the Constitution must be approved by the IUBS Section on Zoological Nomenclature and IUBS itself. A subcommittee (membership as indicated in Summary of Decisions & Committees) was established to work on revision of the Bylaws, aiming at proposing changes by 31 December 2008. The Subcommittee will also work on revision of the Constitution in due course.

Funding model for ITZN/ICZN

The present financial situation is worrying as the ITZN capital is very limited and based on shares, thus currently decreasing in value. If ITZN funds are exhausted, the

BZN could not be published and the Secretariat would be dismantled, which would almost certainly halt the work of the Commission. Development of ZooBank requires additional external support. There was discussion on various proposals from Michael Dixon, the new Chairman of the ITZN, for new funding models, including a subscription model (for short-term support) and an endowment model (for long-term support). This was followed up at a meeting between Dixon and the Council after the ICZN Special Session.

Relationship with IUBS

The relationship with IUBS was not discussed in detail, but the Council was requested to explore this issue with IUBS in the light of perceived difficulties with requirements to meet in concert and to ratify ICZN changes through the IUBS. Commissioner Fautin is a member of IUBS and will facilitate this discussion.

Summary of session on BZN Content & Future (Session 2)

Chair: J. van Tol; Rapporteur: E. Michel

Secretariat functioning

The Secretariat staff were introduced, as there have been significant changes since the Washington DC ICZN General Session: Svetlana Nikolaeva (BZN Scientific Editor) continues to handle cases and now runs journal production, taking over from Jeremy Smith who retired in April; Steven Tracey (Secretariat Administrator and BZN Zoologist) handles BZN Comments, set pieces (e.g. contents, indexes) and Enquiries, in addition to keeping the finances, subscriptions and office admin rolling along; Natalie Dale-Skey (Webmaster, Development Officer and BZN Zoologist) runs regular Commission and author communication, keeps the website updated, assists with processes related to fundraising as well as contributing to BZN editorial and production processes; Ellinor Michel (Executive Secretary) took over from Andrew Polaszek in January, and ensures that the Secretariat runs smoothly, has productive collaborations with external scientific bodies, raises funds and awareness of ICZN activities.

Enquiries will continue to be screened by the Secretariat, with the help of David Notton, a seconded curator from NHM Entomology with extensive expertise in nomenclature. More straightforward questions will be dealt with directly and difficult questions will be sent to members of the Commission. A list of FAQs is being developed based on enquiries and will be posted on the website. Ultimately, a Wiki will be set up to deal with Enquiries.

A list of Commissioners' specialities (e.g. bibliographic, classical languages, etc.) was considered desirable to improve workflow, and will be polled from the Commission.

BZN topics

The core and potential future functions of the BZN were explored. The main content is to remain issues of nomenclature, including Cases, Comments, Opinions, general articles on nomenclatural topics and not bibliographic issues. The Commissioners are to be considered a board of associate editors. Whether additional, highly qualified associate editors should be included will be considered at a subsequent meeting.

The possibility of merging the numbering system for Cases and Opinions was considered, however it was argued that Opinions need to keep a strictly sequential order of timing of decisions, given by the numbering system. Similarly, Cases need to have a chronological ordering from receipt date, indicated by their numbers. As the time for complete treatment of a Case can vary enormously depending on editorial responsiveness of the authors, time needed for Comments and number of voting rounds, these numbering systems will remain unchanged. The format for Opinions will also remain unchanged, but the topic may be revisited in future sessions, as it has been suggested that the presentation could be made less formal. A new format for voting papers was suggested by Dale-Skey, and agreed by all present. This will put all votes on one standardised page, although the presentation of supporting material on case votes will remain essentially the same. A procedure for case closures was agreed. If authors have not responded on editorial suggestions after one year, a case is to be considered closed. Closed cases, which include orphaned, withdrawn or rejected applications, will be listed yearly in the December BZN.

The potential for the new application Proforma (application instructions with examples http://www.iczn.org/guidelines.html) to improve the quality of submissions was recognised, however it is too soon to judge the effects of this on recent applications received.

Active engagement with taxonomic serials should be re-initiated so that Case titles are published where they are most likely to be seen by working taxonomists. Commissioners will help develop these links, presenting the Secretariat lists of appropriate journals and newsletters in their area of taxonomic expertise.

An ISI rating for the BZN was discussed, but seems an inappropriate measure for a journal of this kind (with supporting comments from external participants in the publishing business). Online publication for the full journal was considered a desirable option, but with paper copy as well. Concerns over revenue from the BZN were mentioned in the context of changing publication options.

Outreach

As a point of general strategy, the Commission discussed the position of nomenclatural work in science and defining who is the public being served (the stakeholders for ICZN work). It was agreed that we need to address various gaps in outreach, both in method and geography. The starting question of whether the number of taxonomic papers is increasing or decreasing was hotly debated, with data from *Scopus* (which generally covers mainstream online accessible publications) suggesting sharply increasing output, but more detailed tracking of marine literature, including low-profile publications, suggesting decreasing output. Zootaxa has had an enormous impact on the field, and has had unprecedented growth in publication output since its inception. This important topic warrants further attention.

It is critical that good nomenclatural practice is encouraged with both 'carrots and sticks' (incentives and enforcements) for databasing initiatives. It was suggested that taxonomic referencing be increased throughout biological sciences, so that taxonomic authorship papers are included as standard in other literature. This would have an important effect in improving the profile of taxonomy, especially in view of 'bean counting' administrations.

Teaching of nomenclature is, as has been noted for some time, decreasing in prevalence. This needs to be addressed. The suggestion was made that the ICZN

make a series of notes at different levels (e.g. slides, text, etc.) available for teachers to make it easy for them to include nomenclature in their classes.

Geographic representation both on the Commission and of nomenclatural teaching was considered a very pressing issue. The four top countries with high output of taxonomic work, high biodiversity, yet still low representation in the nomenclatural community were identified as China, Mexico, Argentina and Brazil. Other megabiodiverse countries, e.g. in SE Asia, are also important for nomenclatural outreach. Outreach can be effected by 1) increased teaching of nomenclature, which can be aided by ICZN-prepared teaching material; 2) increased ICZN profile in taxonomic journals, which can be aided by listing BZN Cases; 3) improved visibility of nomenclature in professional presentation – Commissioners encouraged to speak on this in Congresses, seminars, etc; and 4) representation on the Commission.

Summary of session on Amendments to the current Code, plans for revision of the Code (Session 3)

Chair: Z.-Q. Zhang; Rapporteur: G. Rosenberg

Amendments versus Revision

The publication of the 4th Edition of the Code in 1999 met the changing needs of zoological taxonomy at the time and corrected problems in the previous edition of the Code. The need for similar changes is becoming increasingly pressing, and is a high priority issue for the Commission. During this session the Editorial Committee (renamed and expanded from the 5th Code Committee established in Washington D.C., with membership as indicated in Summary of Decisions & Committees) agreed to pursue dual objectives of revising the existing Code through declarations and amendments and producing the 5th Edition of the Code. An extensive discussion addressed the question of which kinds of changes could be considered minor changes to the Code, thus treatable with a declaration, versus major changes which require an amendment. Although this was not solved in a general sense, specific examples were pursued. The most pressing amendment was addressed in a dedicated session on electronic publication (see following summary), with a draft proposal now published in a number of outlets (this issue of *BZN*, *Zootaxa*, *Zoological Journal of the Linnean Society*, etc.) and the time-clock started for comments before voting. Other proposed changes to the 4th Edition of the Code were referred to the Editorial Committee as indicated in Summary of Decisions & Committees.

Objectives for the 5th Code

The Commissioners favoured attempting a complete restructuring of the Code to make it more accessible and usable. This might take several forms, for example grouping together all rules that apply to a particular kind of name (species-group, genus-group, family-group), or having one section with rules for introducing new names and another for rules governing names previously introduced. Addition of more examples and explanatory material is also desirable.

Logistics of producing the 5th Code

The Commission discussed the need to find funding for the Editorial Committee to meet to work on the 5th Edition of the Code. This would allow work to proceed more

rapidly than can be accomplished by email. The e-Biosphere meeting in London in June 2009 may provide a good opportunity for that meeting, and also to refine the proposed amendment for electronic publication in light of comments received to that point. A wiki has also been established for discussion of revisions of the Code. As occurred in Washington in 2007, a consensus was reached that English should be the only official language of the 5th Edition. Given this consensus, a proposal that amendments to the Code be translated into all the official languages of the Code was tabled.

Summary of session on Electronic Publication (Session 4)

Chair: F. Krell; Rapporteur: S. Kullander

Binominal nomenclature and binary publication – the issue at hand

A full session with attendance from Commissioners and a number of expert external participants gave attention to what is called e-only publication, i.e. publications that exist only as computer files and which are served by electronic signals only, without organised production of hard copies during the publication process. It is presently possible to publish nomenclatural acts in electronic publications such as CD-ROMs following the requirements in Article 8.6. It is not possible to publish nomenclaturally available work in electronically streamed publications, such as via the hypertext transfer protocol, the most common form for streaming documents on the Internet. Nomenclatural acts published on the Internet alone are currently unavailable for zoological nomenclature unless the publication reflects the content of a simultaneously published, identical paper version.

The growth of Internet publishing today, however, is almost exponential, making it an increasingly prominent form of publishing scientific journals. Until recently, Internet publishing has usually been combined with identical paper publication because of variation in the user base for one format or the other. However, the internet is increasingly accessible and many publishers are now moving away from paper publication entirely, and do not have other simultaneous distribution methods, such as CD-ROMs. Thus, there is a current crisis as nomenclatural acts contained in e-only publications are (often inadvertently) nomenclaturally unavailable.

A large number of arguments have been produced for and against e-only publication. The scientific community has already had a positive experience with information dissemination using electronic publications. But warnings have been issued that e-only publications (usually stored on only one server and served on demand through an HTTP connection) may not be permanent. The content could be revised over time, which for nomenclature is a serious breach, and moreover servers could be shut down, violating the requirement for permanent archiving.

During this session, special emphasis was given to dates of publication, but also to the problem of verifiability of a publication. The discussion centred on journal publication, which will soon need guidelines because most e-only publication is expected to be with journals, and the number of e-only journals is expected to increase. The Secretariat has been receiving an increasing number of enquiries on this topic from publishers, authors and taxonomists wishing to determine nomenclatural availability in electronic publications. A special problem already exists in that dual publishing (online and on paper) is currently relatively common, but it is not always

possible to verify that an online paper also exists in an identical paper form. The pre-release of papers is also considered a challenge to rules of nomenclatural availability, as it is common for pre-released papers to be altered in their final form.

Pre-publication appearance of papers online, e.g., papers in proof, 'early online', or the like, was considered a problematic complication in e-publishing. It certainly requires a hard stamped date on e-only publications, and some mechanism has to be found so that if pre-publication papers do not get formally published, such cases can be dealt with.

Outlining the issues

Since e-only publications are already happening, the Commission feels that it has to meet the challenge and provide means to adopt e-only as a publication method also for names and nomenclatural acts.

A number of suggestions to regulate e-only publishing were proposed but not adopted, including restriction to certain approved publishers, registration with the Secretariat, or application of ISSNs or other identifiers. It was clearly noted that the Secretariat cannot act as a depository for voucher copies. There are 16,000–24,000 new animal names and nomenclatural acts published each year, and although currently only a tiny fraction of these are published without paper copies, this portion is likely to grow significantly, thus archiving those publications would swamp the Secretariat.

ZooBank was seen as a future resource which would enable official registration as a means of verification of new names and nomenclatural acts not printed on paper. The mechanism for using ZooBank, however, is still in a development phase and will require time for adoption by the zoological community, thus interim regulations must be considered.

Archiving

A major point of concern was durability, and availability of online publications over time. Although it was noted that paper publications do not necessarily exist forever, print on paper is the best option. For digital content, one may consider paper archiving, but this then is not truly e-only, and the logistical questions of how and where remain daunting. Digital archiving is still an industry in development with multiple techniques for archiving and ensuring future access to content. Most archiving systems may not be expected to be able to deliver future copies that are exactly identical to the original in layout, but the information can be carried over by different means.

Online journals do make use of archival systems, and the Commissioners agreed that digital archives provide an acceptable means of ensuring future access to e-only publications. It is also advisable to use a standard format, of which the archival version of the Portable Document Format (PDF/A) provides an ISO standard for PDF files, saving all layout and reading instructions together with the document.

Hard Media

Opinions varied concerning laser disks, including CD-ROM, DVD-ROM and Blue Ray, but the final conclusion was that these storage units are unlikely to provide permanent access to their contents, and production of a print run of numerous identical copies was not guaranteed. It was thus decided to not permit CD-ROM or similar storage media for publication of nomenclatural acts in the future. It was the

experience of several Commissioners and commentators that libraries are reluctant to deal with occasional CD-ROMs sent to them.

Current strategies

Concern about technology pervaded the discussion. On a suggestion by Commissioner Kottelat, it was thought ill advised to specify in too much detail which methods would be permitted. Instead, it was suggested that the methods should be specified in Declarations to be issued by the Commission whenever needed.

Three decisions were agreed upon, presented in a draft amendment to the Code in this volume that could be ratified by the next meeting of the Commission in October 2009 in Cape Town. It was the general opinion that this issue is of sufficient urgency that it should be addressed immediately, as the next edition of the Code will take several more years. If passed, this emendation will make it possible to publish e-only nomenclatural acts from 2010, and will keep zoological nomenclature in pace with the development of scientific publishing as it moves away from paper and other hard media.

Summary of session on ZooBank (Session 5)

Chair: D. Fautin; Rapporteur: R. Pyle

A day-long session was devoted to the topic of ZooBank, the proposed official online registry of nomenclatural acts, publications, authors, and type specimens. This included presentations on the history of the project, summaries of major issues still to be addressed and potential solutions. Discussion was extensive and included a vote on the ZooBank Committee.

Brief Historical Review

Since the initial 2005 publication in *Nature* announcing the intention of the ICZN to develop and implement the ZooBank registry (Polaszek et al., 2005), progress on ZooBank has continued in several ways. At the request of the ICZN Executive Secretary, Pyle began developing an initial prototype implementation of ZooBank, initially hosted online at Bishop Museum in Honolulu. With financial support from the Global Biodiversity Information Facility (GBIF) and the Taxonomic Databases Working Group (TDWG), the technical infrastructure to support the issuing and resolution of Life Science Identifiers (LSIDs) was completed in July 2007. These identifiers have been adopted by GBIF/TDWG as the recommended standard for Globally Unique Identifiers (GUIDs) for biodiversity-related data objects.

The public launch of ZooBank occurred at midnight, GMT, on 1 January 2008, in part to commemorate the 250th anniversary of the officially recognised starting date for modern zoological nomenclature (1 January 1758; Article 3). At that time, ZooBank had registered all 4,819 names established in the tenth edition of Linnaeus's *Systema Naturae* as retrospectively registered content, as well as five new species names and associated acts, literature, authors and type specimens as prospectively registered content.

In April 2008, GBIF provided additional funds to support ZooBank to retrospectively register all authors, publications, and nomenclatural acts establishing new taxon names in the journal *Zootaxa* (an effort that is ongoing). Additional

prospective registration had also occurred (and was in process) for several publica-
tions in *Zootaxa*, *PLoS One* and *ZooKeys*. The development and implementation
process had revealed a need for several technical implementations that would need
input from the ICZN, so further development was paused until the Paris Special
Session of the ICZN to allow this discussion to occur.

Prospective Registration

The presentation continued with a discussion by Pyle on various aspects of
prospective registration, starting with the specific data 'objects' that should get
registered in ZooBank. Most people have thought of it as a registry for 'names', but
the correct unit of registration is the 'nomenclatural act' (which includes acts
establishing new names, but also other acts governed by the Code, such as
lectotypifications, emendations, etc.). One area of uncertainty was whether additional
acts that are not themselves governed by the Code but have potential bearing on
Code-governed acts should be included: these comprise subsequent binomial and
trinomial combinations (which may establish secondary homonymy), certain ortho-
graphic variations of spelling, and nomenclatural acts associated with names
established at ranks above the family-group.

The second class of data object to be included in the ZooBank registry is published
works, as defined by the Code. Although publication objects are properly the domain
of the library community, the decision to include registration for published works
within ZooBank was based on two factors. First, even though some initiatives (such
as the Biodiversity Heritage Library and Plazi) are concerned more specifically with
publications, no large-scale project currently fulfils all of the needs of ZooBank (e.g.
precision tracking of dates of publication, and authorship of specific subunits of
individual publication units); and second, there is a perceived desire for ZooBank to
remain fully autonomous with regard to the objects of direct concern to it. Hence,
because the Code does robustly address publications, it seems justifiable for ZooBank
to include registration of publications that contain nomenclatural acts. The scope of
which published works should be registered was established to be only those
published works that contain registered nomenclatural acts.

The third class of data object to be included in the ZooBank registry is authors.
Though not strictly governed by the Code, authors are a fundamental component of
zoological nomenclature. Also within the scope of registration in ZooBank are
contributors of ZooBank registry content, among whom most will probably be
authors as well, but in some cases may not be.

The fourth class of data object to be included in the ZooBank registry is type
specimens. Clearly, the name-bearing type specimens would appropriately be included
in ZooBank, even though they are most properly within the domain of the natural
history collections that own and manage them. There may also be a need to register
the collections themselves as ZooBank data objects, as the Code does address these.

In addition to defining the data objects to be included in the ZooBank registry,
there is the question of who is authorised to add and edit content in ZooBank. A
balance must be struck between liberal accessibility and safeguarding ZooBank
content from malicious and/or sloppy editorial contributions. This issue is complex,
and has not been fully resolved. An initial model for creating a list of users authorised
to add new prospective registration content is to start with known zoological

taxonomists (e.g. lists of authors of zoological journals), then establish a protocol whereby an existing authorised user has the authority to establish anyone else as an authorised user. A model for authorisation to edit existing content requires more careful thought.

The process by which registration occurs, such as the aesthetic 'look and feel' of the registration website, and the sequence of entering content remain open to further discussion. Another area in need of discussion is the steps necessary to transform the unverified content that enters the database into a fully verified 'gold-star' registration entry.

Retrospective Registration

The task of capturing historical nomenclatural acts and associated published works, authors, and type specimens requires far more effort than establishing an online mechanism for submitting prospective registration content. Michel presented a summary of the issues related to retrospective registration, outlining the magnitude of the task, and providing some historical examples of estimates for the amount of time required. Retrospective content was deemed to be important for ZooBank because it provides significant value to practising taxonomists. It was also deemed to be complicated in terms of establishing mechanisms to assure accuracy. A number of ideas and options were discussed by the Commission, and there was general agreement that more discussion is needed both within the ICZN and with the broader community.

Observer Agosti of Plazi presented the case for including original taxonomic descriptions in ZooBank, which would enhance the value of ZooBank to practising taxonomists. Copyright issues have always been an obstacle, but there are some interpretations that taxonomic descriptions, when stripped of originally published formatting and layout, constitute 'facts', and hence are not subject to copyright in some countries. Much depends on whether taxonomic treatments can be considered creative works. The questions relating to copyright laws as they apply to taxonomic works, and also whether taxonomic descriptions are appropriate to be included as ZooBank content, will require further investigation and discussion.

Observer Remsen of GBIF presented an overview of the needs of the broader community for online services for resolving taxonomic names. The problem spans all Codes of nomenclature, and involves text-strings used as scientific names that are not immediately recognisable (due to misspellings, cross-Code and within-Code homonymy, etc.). ZooBank could act as steward for the coordination of zoological names among all components of the 'Global Names Architecture' (GNA). Inconsistencies between the Codes of nomenclature introduce difficulties for cross-Code reconciliation and resolution.

Observer Robinson of Thompson/Reuters (owners of Zoological Record; ZR), presented a proposal to establish 'Registration Centres' for ZooBank, to allow broader community involvement in adding content to ZooBank. ZR could (and would be willing to) serve as such a centre. Protocols and guidelines would need to be established to assure data quality, and online data services would need to be defined and developed. ZR would benefit from contributing in this way by having links back to the ZR website from ZooBank records entered through the ZR registration centre. ZR has strict protocols for data accuracy, and an experienced staff of data entry personnel. Further investigation of this model is needed.

ZooBank Committee

At the meeting of the International Union of Biological Sciences (IUBS) in 2007, a meeting of Commissioners voted unanimously to pursue ZooBank as an activity of the ICZN, and an initial ZooBank Committee was established with an explicit statement that Commissioners and outside observers not present at the meeting would be allowed to join the Committee subsequently. However, the vote was never formalised, and thus needed to be formalised in this session. The ZooBank Committee established at the 2007 IUBS meeting was amended as indicated in Summary of Decisions & Committees. The Commission then voted to pursue the exploration of ZooBank and potential registration, and refer these items to the Editorial and ZooBank Committees.

Reference

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Allotypes should be from the type series: a position paper for reinstating Recommendation 72A from the third edition of the Code that defines the term 'allotype'

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Abstract. The purpose of this paper is to suggest reinstating the wording of the third edition of the Code for Recommendation 72A: 'The term 'allotype' may be used to