GloBiv

Global Bivalve Database Workshop

A breakout workshop at the annual meeting of the American Malacological Society (31 July – 4 Aug 2004)

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Additional information and updates at: GloBiv.net

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We would like to discuss the feasibility of a single global reference for Recent bivalve identification and biodiversity information. The following is meant to start this discussion at the AMS meetings in Sanibel, Florida. Those who can attend will brainstorm on the merits of this proposal, whether it is reasonable and if so, how to proceed. If there is sufficient interest in, and commitment to this effort, we will commence with fundraising efforts and work coordination.

The Problem

For bivalve mollusks, as for most taxa, there is a profusion of available names relative to valid names. A stable nomenclature and taxonomy will not become a reality until all taxa are critically revised, a prospect that lies far in the future.

GloBiv Objectives

There is a great need for understanding the bivalves present in the "real world," i.e. the species that are currently recognizable in nature. Although lists based on literature compilations provide a step in that direction, they are limited by the relative ineffectiveness of the literature in delimiting valid species from available nomina. The objective of GloBiv is to produce a checklist of valid species, including undescribed taxa, which are recognizable in the global fauna based on image and specimen vouchers.

GloBiv Goals

1) A very useful first step toward a global revision would be if "real" biological entities could be unambiguously recognized and listed, even if this listing would involve unverified nomenclature. Such a checklist would also be a great starting resource for future revisions. The primary goal of GloBiv is to produce such a checklist of recognized bivalve species.

2) Most of the taxonomic work on bivalves is local and faunistic in nature. As a result individual faunas are biologically often well known, even if the names used vary in accuracy. Species in a fauna are generally recognizable as distinct even if assigning names to them may be difficult. Often a numerical designation (*Tellina* sp. 12) is all that is available. Often the same species are identified by different names in different faunas. Voucher specimens, images, and descriptions allow for the accurate biological documentation of species involved, and allow communication about the species, even when nomenclature of the species is unresolved. A secondary goal of GloBiv is to illustrate voucher specimens of all “real” bivalve species, and eventually to accompany them with concise diagnostic descriptions.

Proposed Initial Process of GloBiv

The goal of GloBiv is to create a global database of biologically recognized species across the world, by compiling, concatenating, and cross referencing individual bivalve faunas documented with specimen and photo vouchers, and hopefully type specimens. The following process is proposed:

1. Compilation of a series of faunal checklists, where each species record is supported with a specimen and photo voucher. Such checklists would be created by bivalve workers familiar with particular faunas.

2. Concatenation of these lists, and checking them for a) morphological species that appear under more than one name, and b) names that are used for more than one morphological species. Morphological species concepts vary, so in some cases it may be useful to recognize super species or species complexes with a list of included entities, rather than to restrict or lump names or species concepts.

3. Create a master list that eliminates (or in some cases recognizes as species complexes) the inconsistencies encountered in step two and creates a "nomenclatural handle" for each of the morphospecies so recognized.

    i. For taxa where appropriate revisions exist, this last step could, under the guidance of the respective authority, could become a definitive checklist for the taxon.

    ii. In groups where we are far from revisions, the resulting checklist would provide an initial outline of the group, providing interested parties with a "nomenclatural handle" for each taxon, and facilitating communication about these species.

    iii. As revisionary studies proceed, this nomenclatural handle would eventually converge upon the valid name of the species. However in the interim, there would be a well documented (by specimen and photo voucher) concept for the various species that we can recognize "in nature."

    iv. This list would also facilitate revisionary work, in that inconsistent nomenclature uncovered would often lead to a discussion that would resolve many of these problems, and unusual records and species would come to the attention of appropriate workers. Finally, the resulting checklist would be very useful for a great variety of biodiversity efforts.

4. The resulting fauna-based compilation would then be integrated with several similar, literature-based efforts (e.g. Jablonski et al. list, MALACOLOG, CLEMAM, Biotic Database of Indo-Pacific Marine Mollusks, Graf & Cummings freshwater bivalves), and illustrated type catalogs. Also to be integrated would be definitive checklists available or produced for certain taxa by workers who have effectively revised them, even when such revisions are as yet unavailable in print. The final compilation would be limited to species, including unidentified and undescribed taxa that are recognizably different, based on available information, including image and specimen vouchers.

Additional information can be found at: **GloBiv.net**