

EXPLORING VS. CATALOGING: WHY DON'T SYSTEMATISTS PLAY WELL WITH OTHERS?

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Why is it hard to get systematists to contribute strongly to large online initiatives that are based on taxonomic information (e.g. EOL, CoL, GBIF)?

To succeed, these initiatives must be based on the best current taxonomic science. If they are based on outdated taxonomic information, they will never gain credibility.

The key to getting systematists to participate in an ongoing way is to ensure that **the information that systematists retrieve from online systems must be better than the information already on their desk**. Without that, there is little incentive for a systematist to invest the time to put information into a system and keep it updated.

Why is the information retrieved from online systems (often) not seen as adequate for research-level work in systematics?

WHAT WORKS FOR SYSTEMATISTS?

With traditional scholarly publications, systematists both *incorporate information from them and actively generate them*.

Why?

Visibility of the scholarly trail of change.

As an example, this is a fragment of text from a taxonomic publication¹ changing the diagnosis of a genus. It provides information that permits the reader to trace the scholarly history of the change.

¹Walker, T.M. and G.C.B. Poore (2003) Rediagnosis of *Palaemon* and differentiation of southern Australian species (Crustacea: Decapoda: Palaemonidae). *Memoirs of Museum Victoria* 60(2): 243-256.

In spite of the shortcomings of the characters discussed above, it is possible to redefine *Palaemon* around the second and third groups of species and include the following two species.

Palaemon Weber, 1795

Palaemon Weber, 1795: 94.—Holthuis, 1950: 42–44 (extended diagnosis).—Holthuis, 1993: 112–114 (synonymy).

Diagnosis. Rostrum well developed, toothed dorsally and ventrally, without an elevated basal crest; upper margin bearing single row of setae between dorsal teeth. Carapace smooth....

The information has credibility because this publication (and those referenced by it) contain the tools that let the reader trace the changes in the treatment of the genus name through time.

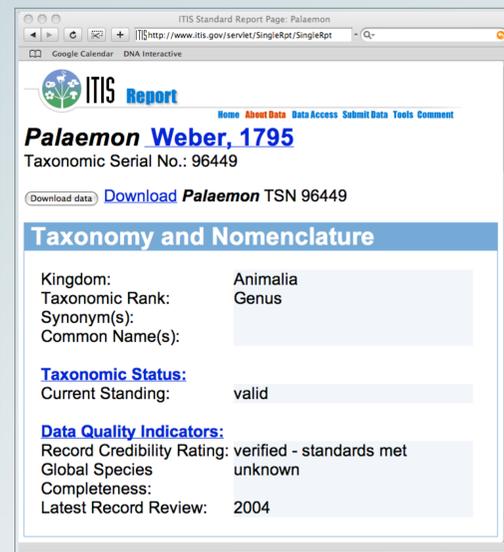
WHAT DOESN'T WORK FOR SYSTEMATISTS?

Information retrieved from online repositories is designed to reflect the most recent version. Information about *what* changed, *who* changed it, *when*, and *why* is often not available (and often not even recorded).

This example from ITIS shows that there has been some curation of the information about this genus. However, it is

not possible to determine who made changes, what changes have been made through time, and why any of the changes were made.

From the perspective of a systematist doing research, this information has little credibility because there is no way to trace the changes that have been made.



WHAT'S NEEDED?

Every record of taxonomically important information must have a detailed log of changes.

Credibility comes from a visible scholarly trail of change.

When change information is intrinsically integrated with data records, amalgamated data repositories will become potential places where scholarly work can happen.

Our experience with the Decapod Assembling the Tree of Life project (<http://decapoda.nhm.org>) illustrates the value of this principle.

Our amalgamated collection of decapod systematics references is being well received by systematists in large part because of its transparency.

Once a record is submitted to the project, all future changes are documented, allowing researchers (including the original contributor) to see and evaluate their credibility.

No more undocumented changes.

