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THE DREW LAB AT COLUMBIA UNIVERSITY

ECOLOGY, EVOLUTION AND CONSERVATION OF CORAL REEFS



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On Authorship

For better or worse publications are the coins of the realm in academia. They represent a basic unit of measurement by which a lab's productivity can be measured, by which decisions on tenure and promotion are made, and a factor in how grants are allocated. For many young researchers getting that **first publication** is a tremendous feeling, the first form of professional validation, and proof that those long hours in the lab/field /simulation were all worth it.

In general we put emphasis on order of authors in publications. Typically the first author is the person who has done the most work. In many cases the last author is the head of the lab in which the work was done. The middle authors, well the best you can say is that you participated in the project...

Now because authorship is helpful, and order matters several interesting questions arise. The first is how to ascribe authorship – e.g. how much work do you have to do to warrant being listed as an author? The second is once you've decided who is going to be an author, how do you order the authors?

The question of who is an author is often a tricky and highly political one. Journals can help by providing clear guidelines. [PLOS One](#) suggests the following rules:

To qualify for authorship, a researcher should contribute to all of the following:

1. *Conception and design of the work, acquisition of data, or analysis and interpretation of data*
2. *Drafting the article or revising it critically for important intellectual content*
3. *Final approval of the version to be published*

All persons designated as authors should qualify for authorship, and all those who qualify should be listed. Each author must have participated sufficiently in the work to take public responsibility for appropriate portions of the content. Those who contributed to the work but do not qualify for authorship should be listed in the acknowledgments.

When a large group or center has conducted the work, the author list should include the individuals whose contributions meet the criteria defined above, as well as the group name.

One author should be designated as the corresponding author, and his or her email address or other contact information should be included on the manuscript cover page. This information will be published with the article if accepted.

So the key questions here are **1) did the person make an intellectually substantive contribution?** and **2) are they willing/able to defend it publically?** If you meet both of those qualifications then you should be an author. To answer the first question, ask yourself "would this paper have happened without this person participating?" To answer the second ask "Do you think they could explain the major findings and would they be willing to present this at a conference?"

Several journals (including PLOS) help maintain these standards by having the submitting author clearly list what part(s) each co-author worked on.

The process for assigning co-authors depends on several things. **The first author should be the person who has had the largest intellectual investment in the project.** This is typically the person who came up with the idea, slogged through most of the data analysis and wrote the majority of the paper. **The last author is typically the person whose lab the research came out of** (although this is highly dependent by field and individual case, e.g. I was just a research tech on this [paper](#)). The last author is the one who oversaw the research, provided funding and mentoring and, in the case of a student, provided mentorship on navigating the publishing process. (For a more detailed list of some alternative strategies for assigning author emphasis and credit please see this excellent short piece in [PLOS Biology](#) – thanks to [Rafael Maia](#)).

The situation becomes more complicated when journals limit the number of authors any paper can contain. **This is a stupid policy.** Contributions



KEEPING DILIGENT FIELD NOTES CAN HELP YOU RECONSTRUCT WHAT YOU SAW WHEN IT COMES TIME TO WRITE THE MANUSCRIPT

contributions and I cannot think of a reason why they would do that (looking at you [Trends in Ecology And Evolution](#)). In a recent [publication](#) a lab had to be listed as a co-author because of these limitations. **Does that mean the people subsumed within the lab can count this as a publication? What does this say about how individual research contributions are valued?** I respect the lead authors of this paper, I feel like this unfortunate situation was brought about by the asinine publication restrictions brought about by the journal.

As a worked example of one paper's authorship delineation, I will talk about my [Papua New Guinea reef fish paper](#). It was clear that I was going to be lead author - I spent eleven months getting permits, designed the experiment, asked the major questions oversaw the research and did most of the experiments. After that however the work that people did was highly variable. Charlie and Joanna did a ton of the field work and helped edit the final MS, Amber and Darcae spent weeks in the Field Museum Ichthyology holdings with me sorting fish and did a ton of the (albeit tedious) databasing of the results. Augustine was the director of the field station that we stayed in, and facilitated getting local approval to conduct the research as well as provided useful information about the local environment. As the director of the lab all of us but Augustine were in, Mark clearly deserved to be last author. He oversaw the field research, helped pay for the project, gave us insight into how to write the MS and generally was an amazing mentor to all of us involved.

Lastly there has been a tradition of guest or honorary authorship, wherein someone who has had little to nothing to do with the publication is listed as an author. Stop. Really, just stop. This may seem nice, but it devalues the work that we all do and is intellectually disingenuous.

Ok, and in terms of giving credit where credit is due, this diatribe came out of a long twitter conversation and I'd like to thank the following (roughly in order of how they showed up in my feed) @shaenasaurus @WhySharksMatter @rounce @Amingee @hlapp @Mammals_Suck @snapdragon830 @lkluber @Bashir_Course9 @CliffordTheHutt @BioScienceMum @DoctorZen @pottytheron @hylopsar @JacquelynGill @sharmanedit @thecancergeek @GeekyLabMom

About Research

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BY [LABROIDES](#) IN [UNCATEGORIZED](#) ON [MARCH 7, 2013](#).

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Kara Hedian Woo (@kara_woo)

MARCH 7, 2013 AT 4:50 PM

My collaborators have an authorship policy that we agreed on early in the project. When a lead author is drafting up a manuscript they send out a form letter to all potential co-authors (anyone that was at all involved) with a table of different activities related to the research (data collection, analysis, writing, etc.), and the potential co-author fills in the table, describing which of those activities they contributed to. If their contribution meets some minimum level (for us, 2-3 items on the list), then they get co-authorship. Though the policy doesn't really deal with author order per se, I think it has the potential to cut down on authorship drama because it's an open, fair process that we all agreed on from the start.

Karthik Ram

MARCH 7, 2013 AT 5:12 PM

Science published an editorial discouraging honorary authorship. See [here](#).

inundata

MARCH 7, 2013 AT 5:13 PM

Science published an editorial discouraging honorary authorship. See [here](#)

Terry McGlynn

MARCH 13, 2013 AT 5:06 PM

So, if a student conceived a project, did most of the work, and wrote most of the paper – but then an author was brought in to do a very sophisticated analysis that the student doesn't fully understand – the student should be removed from the paper?

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