

**CREATION OF THE UAM.BIRDS GOOGLE SCHOLAR PROFILE** started with the creation of a separate email account ([UAM.birds@gmail.com](mailto:UAM.birds@gmail.com)). We were not able to create an additional profile within a personal email account; the profile offered by Google Scholar is relatively unyielding to manipulation. Hence, we basically co-opted Google Scholar to make it think UAM birds was an individual.

The next step involved populating the profile with papers that used UAM birds. This progressed through several avenues. First, the department already had a list of papers using UAM birds going back approximately a decade for use in NSF proposals. These papers had been pre-vetted to ensure their use of the UAM bird collection and could be added easily, albeit manually, by searching by lead author name in the “add” function. Second, we searched for older papers written by the past curator and collections manager, reasoning that their work would contain a substantial percentage of papers using the UAM bird collection. Third, we checked the acknowledgments and information provided in field guides and authoritative published works on western North American birds looking for evidence of UAM contributions. Effort was concentrated on what we considered to be more important works rather than simply combing all possible literature (our list may not be complete). These searches were slower and depended more heavily on institutional knowledge. However, a number of the most heavily cited publications were found in this way.

Once we felt that we had found most of the possible citations and had added them to the Google Scholar profile, we proofed our work. First, we downloaded them into an Excel file using the “export” function. We then manually went through this file and categorized publications by the method in which they had used the UAM bird collection. These modes of use consisted of three categories: direct use of one or more UAM bird specimens, depositing bird specimens that had been obtained in the study at UAM, or use of the information contained in and associated with the collection. These are not mutually exclusive categories, and many publications fell into more than one of these use categories.

Google Scholar does not have much in the way of citation quality control. It frequently attributes authors to papers when they in fact have only some tangential relationship to the paper. It also often has multiple citations for the same paper. These can be merged using the “merge” function. Often the profile will need to be sorted by “Title/Author” to get duplicates on the same page (it doesn’t appear that you can carry a selected citation through page changes to merge papers on different pages; it also helps to show 100 citations per page and not 20). The bottom line is that each citation should be vetted to make sure its inclusion is appropriate. Certain publications (e.g., 7<sup>th</sup> edition of the AOU checklist, Phillips *Known Birds of North and Middle America*) do not appear to be cited as much as they should. We had to enter these manually, and although they are correctly entered there may be enough variation in the way they are cited that Google Scholar has a hard time recognizing all the variations.

We hope to see other collections adopt this method as a way to look beyond use statistics (e.g., loans, research visits, etc.) and gain greater understanding about how often the products of that use are then used themselves in the larger scientific publication enterprise. That said, while this approach has some merits, we have to be careful in putting too much reliance on it. For example, a basic taxonomic revision is usually cited less frequently than a paper on a popular topic, so the scientific importance of a

publication may not be measurable by citations alone. Nevertheless, this new metric of a collection's impact may be useful when making a case for continuing or increasing support for collections as important scientific infrastructure with considerable impact.

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