

## **Society of Vertebrate Paleontology**

### **Best practices from the Ethics Education Committee regarding research, publication, and museum work**

#### Research and Publication

The mission of the Society of Vertebrate Paleontology includes the active dissemination of information on the latest research in paleontology. This information should be reliable and generated by the most rigorous practices of scientific inquiry. These practices entail:

- 1) Publishing original work. Although science is a progressive process and ideas and evidence will always build on each other, including the work of other researchers, plagiarism or other misuse of the intellectual property of others is unethical and may constitute a copyright violation under U.S. and international law. Plagiarism includes copying of text, data, or ideas without proper attribution; such actions work against scientific honesty. Moreover, individuals should endeavor to avoid the appearance of plagiarism by thoroughly researching and citing all relevant literature.
- 2) Seeking independent review. Reviews of published work should be sought from individuals who have no current or past associations with the author(s) that might bias their review. This sort of thorough editorial review shall be scrupulously practiced by the society's own publications, and should be the standard for our members in other publications.
- 3) Avoiding conflicts of interest. Researchers should not let personal interests or monetary compensation bias the results of their research or their reviews of others' research. Any conflicts of interest should be avoided, and if this is not possible, should be explicitly stated.
- 4) Substantial contribution for authorship. Individuals should appear as an author only on those publications in which the individual has contributed substantially to the design, data retrieval, analysis, interpretation or writing of the published work.
- 5) Approving publications. All authors should approve the final version of publications on which he or she appears as an author.
- 6) Publishing work in a timely manner. Long delays to publication are at odds with our mission of active dissemination of results, especially when this practice is associated with restricted access to fossil or other specimens for study by others.

In addition, we encourage free and open communication among scientists, and between advisors and students, concerning their research. In the case of collaborative research, we recommend that the order of authorship be established and agreed upon in the early stages of the collaboration. It is especially incumbent upon more senior scientists to uphold the highest standards for professional conduct, as they serve as role models for younger scientists and graduate students.

Charges of plagiarism or other misconduct in publishing should be brought to the attention of the journal in which the article was published and the institution that employs the accused

individual. These institutions should perform a fair and unbiased investigation of the accusations and determine what punitive actions, if any, are necessary.

We recommend that all our members read the National Academy of Sciences publication entitled “On Being a Scientist: Responsible Conduct in Research,” available on the web at <http://www.nas.edu>.

#### Museum research

Vertebrate fossils are the foundation of the science of vertebrate paleontology. Because of this, repositories that curate and conserve vertebrate fossils and their contextual data are essential to conducting vertebrate paleontological research. It is therefore critical that researchers and repositories communicate clearly and effectively about research being conducted.

In the interests of advancing vertebrate paleontological science, museums and other professional repositories housing vertebrate fossil remains should provide access to those fossils for qualified researchers with legitimate research programs. Access may also be warranted in many cases for educational and artistic endeavors. However, we emphasize that *repositories are primarily responsible for maintaining and conserving the integrity of the fossil remains and data under their care*. In all cases, repositories must evaluate whether the proposed activities may impact the integrity of the fossils and the potential data that the fossils provide, and determine rights of access accordingly. Visiting researchers should understand that some fossils might be too delicate to be studied intensively, too rare to be sampled destructively, or currently inaccessible because of legitimate study by other researchers. Below we recommend best practices for museums and their visiting researchers.

- 1) When making arrangements to study material in a museum’s collection, visiting researchers should make sure that the museum they are visiting is aware of what they are studying and why, and what they intend to do with the observations made at the museum. In general, permission to study material in a museum’s collection resides with either the collections manager or the curator in charge, but this is not always specified. It is most effective to copy all relevant curatorial personnel on the correspondence.
- 2) All museums and repositories should have policies regarding access to material in collections for research purposes, although these policies may not be written or stated explicitly. Museum and repository curatorial staff are responsible for ensuring, preferably in writing, that visiting researchers are fully cognizant of all pertinent institutional collections-care policies, procedures, and restrictions. Visiting researchers are encouraged to request a copy of the repository’s collections-management and collections-access policies in advance, in order to familiarize themselves with the appropriate collections care policies. Permission to observe material is not necessarily equivalent to permission to publish on it, so researchers should be sure that they have express permission to publish on material before doing so.
- 3) It is understood that researchers working in museums and other professional repositories may be actively studying the fossils and data under their direct care. In these cases, it is acceptable to withdraw such specimens from more general research access for

a reasonable period of time, until the repository researchers have completed and published the results of their investigations. However, it is also incumbent upon the repositories in these cases to clearly inform visiting researchers of the status of these fossils, so that conflicts do not arise. We emphasize that repository personnel should endeavor to make the fossils under study available following publication of their results. Science is based upon verification and repeatability, and these often require that access be provided for outside researchers. Where multiple curatorial and collections personnel at a given repository are actively conducting research on fossils under their care, we recommend open and frequent communication among these scientists about their research programs.

4) Visiting researchers should inform the museum of the results of their work based on the museum's collections. Museums benefit in many ways from having researchers work on their collections. In some cases, the results of research can lead to news articles that will increase the profile of the museum in the local, national, or international community. In others cases, the information can be presented through exhibits and public programs. Thus the museum will want to know what visiting scientists have done with results of the observations on their specimens, and especially what abstracts or papers are published that include reference to material in their collections. Published papers, published abstracts, dissertations, and theses should be provided to the repository in a timely fashion.

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