Journal of Herpetology, Vol. 50, No. 3, 345–346, 2016

Herpetological Ethics

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"A man without ethics is a wild beast loosed upon this world." Albert Camus

Humans transform their natural environment in profound and unprecedented ways. Our role as agents of change has given rise to differing ethical approaches to how humans should relate to nature and nonhuman species. Professionals in the scientific fields are challenged by the need to make difficult ethical decisions involving complex tradeoffs. Research ethics encompass issues of how study subjects, be they humans or other animals, are treated; whether all necessary permits for collection and transportation of specimens have been obtained; and whether conflict of interest is minimized. In the case of field biologists, what effect we might have on populations and habitats that transcend our specific study organism(s) also must be considered. Academics often think about this as they design their studies and decisions can be especially vexing for ecologists and environmental engineers. Unfortunately, guidance on how people in our discipline should make such decisions can be in short, and often contentious, supply (Perry and Perry, 2008; Curzer et al., 2013a,b, 2016).

Some years ago, the editors of all major herpetological journals published a joint editorial focused on the challenges involved in obtaining sufficient and timely reviews (Perry et al., 2012). They pointed out that participating in the publication process also involved ethical responsibilities and that some colleagues and institutions are not fulfilling them. Improvement in that respect has not been sufficient, but I will not return to that issue here or expand the discussion to recent news coverage of apparent discrimination based on gender or race at universities. Nor will I address the claims that universities and other employers in our field tend to cover up ethical lapses in the name of image preservation, rather than expose and address them. Instead, I will focus on unethical research-related behavior by researchers exposed in recent years and on related issues we have faced at the *Journal of Herpetology*.

Last year, *Science* reported on yet another retraction of a high-profile study and on the firing of over 30 editors in open-access journals whose "publication practices are designed to maximize profits, not the quality of papers" (Anonymous, 2015a,b). A few years ago, Grieneisen and Zhang (2012) identified almost 4,500 cases where a journal had formally announced that a paper was suspect and, therefore, was being "unpublished" between the years 1928 and 2011. The most common reason for retractions, cited in nearly half of the cases, was alleged publishing misconduct, primarily plagiarism and double-publishing. Suspicions about the data or their interpretation occurred in just over 40% of cases. Outright research misconduct such as fabricating data was suspected in about one fifth of retractions. Roughly 2% of scientists included in the meta-analysis of Fanelli (2009) reported engaging in serious misconduct at least once, more commonly so among medical and pharmacological studies. In another study (Martinson et al., 2005), failure to report data that contradicted the author's own work and inappropriate listing of authors were two of the most commonly self-reported problems. Most cases reviewed by Grieneisen and Zhang (2012) happened in high-impact journals (ISI Impact Factor $\geq$ 9.000 in 2010). In fact, over 60% of such journals had reported retractions. Such retractions often result from intentional fraud, specifically target high-impact journals, and most often originate in the United States.

Although the frequency of retractions increased 10-fold (after accounting for the growth in the number of journals) over this period, it nonetheless remained very low: $<$0.2% of papers. About one half of all cases of alleged research misconduct came from just 13 researchers, and almost 45% of all retractions of recent medical studies originated from just 38 research groups (Fang et al., 2012; Grieneisen and Zhang, 2012). Happily, studies of ecology and natural resource management, such as the ones we most commonly publish, were less commonly retracted than might be expected from the number of publications in the field (Grieneisen and Zhang, 2012). To the best of our knowledge, and consistent with the low preponderance reported by Grieneisen and Zhang (2012), there have not been any retractions in any herpetological journals.

Disciplinary journals, including herpetological ones, do not receive a high enough readership to be considered high impact, and perhaps we are lucky in this regard. Nonetheless, plagiarism and duplicate publishing, especially originating from less developed countries, disproportionally afflict journals such as ours (Fang et al., 2012). Unfortunately, we occasionally suspect unethical behavior by contributors and have at times scanned manuscripts with software designed to identify plagiarism. In several cases, we and our colleagues in other herpetological journals have rejected papers in which sections were copied from other papers or even Wikipedia. In two cases, data were taken from another author without proper attribution. Also troubling, reviewers several times pointed out that authors neglected to cite papers that did not support their argument—sometimes ones that they themselves authored and so could not claim ignorance. Issues of gratuitous inclusion of authors, or unjustified exclusion, also are an ethical concern. In one case, an author asked us whether a dead colleague could be removed from the author list of an already-accepted paper and replaced with another. The editors pointed out that, if an individual originally deserved to be an author, then death does not justify their removal. We also have been contacted by people named as coauthors who told us they were not consulted on the final manuscript and who requested that it be withdrawn (it was). In one case, an author unrepentantly cited impatience with the review process to justify submitting a manuscript to two journals simultaneously. Each case required a rapid, careful,

[1]Outgoing Editor, *Journal of Herpetology*.

DOI: 10.1670/16-068

and sometimes forceful response. For one thing, we all make mistakes, and error is not scientific misconduct.

Studies of student behavior show that seeking to develop competence is negatively associated with cheating, whereas being focused on achieving high grades or "getting ahead" is positively associated with such behavior (reviewed in Stephens et al., 2010). Prior work on cheating among professionals suggests that the increasingly competitive nature of academia, and the winner-take-most funding model prevalent in the United States (and increasingly elsewhere) are partially to blame (Martinson et al., 2005; Franzen et al., 2007; Steen, 2011). This suggests the existence of systemic problems related to the nature of the high-stakes publication, funding and academic job practices (Sills, 2014; Xie, 2014).

Competition can be a good thing, and receiving many more manuscripts than we can publish means that those we publish are stronger contributions. Lack of such stringent peer review is one of the weaknesses with the pay-to-publish model adopted by some predatory journals (Raghavan et al., 2015); however, when actions result from yielding to temptation, rather than lack of knowledge, traditional education in responsible conduct of research is insufficient (Anderson et al., 2007). As academia moves away from a model of acquiring knowledge to a funding-driven business model, people engage in behaviors they know to be unethical because they are in a hurry (Berg and Seeber, 2015) and perceive cheating as the way to succeed. The oversight system turns a blind eye because doing so is in its interest.

Editors would prefer to focus on improving the quality of manuscripts but take their responsibility to prevent scientific misconduct very seriously. In the past, each herpetological journal dealt with suspected problems on an individual and ad-hoc basis, but a few years ago, the editors got together to share notes and strategize. We now have ethics statements—the one for SSAR is posted at https://ssarherps.org/about-ssar/ssar-ethics-statement/. To help explain how to properly prepare manuscripts, the editors of multiple journals, including the *Journal of Herpetology,* presented workshops at the Seventh World Congress of Herpetology in Vancouver, Canada, and the Eighth World Congress of Herpetology in Hangzhou, China. Hopefully, these presentations helped clarify what is considered ethical behavior and will help prevent new problems from arising.

Ethics are important, especially for a field where conservation and sustainability are major goals. Current and future editors will do their part but so must the profession at large (Marusic et al., 2007). We ask that you report any errors that substantially alter your own work. This allows corrections to be made, ideally before publication but otherwise as a published erratum, if necessary. We also ask that you report serious concerns about the work of others. Many cases of unethical scientific conduct were first identified by immediate colleagues, who then approached a journal with their suspicions. Yet most suspicions are never reported (Titus et al., 2008). If you have evidence of misbehavior, or even serious suspicions, please share them with the editor of the journal in which a paper appeared or to which you know it has been submitted. As with comments from reviewers, the editor will keep the source of the information confidential.

We always want to believe the best of our colleagues. Many problems are the result of honest mistakes, and some infractions are worse than others. Nonetheless, when education and information are insufficient, deterrence also is necessary. Editors have begun to share the names and details of problem colleagues. Some have been banned from publishing in our journals. If circumstances justify such drastic measures, we will provide the home institutions of culprits with the full details and ask them to conduct their own investigation. We very much hope we never have to resort to such measures.

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Accepted: 24 May 2016.