

THE IMPORTANCE OF THE AMATEUR PALEONTOLOGIST

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ABSTRACT: Amateurs make some of the most important contributions to paleontology, yet recognition for their contributions is scant and I am unaware of a single study which attempts to quantify the importance of their role to the science. Here I give some thoughts on this issue to place the Union Chapel Mine findings into perspective.

In the decade or so that I have been working in the field of paleontology, one of the things that has struck me is how often amateur paleontologists are mentioned. Seldom a day goes by when I am not working with, talking to, or talking about amateur paleontologists. There are few other scientific fields in which the amateur plays such an important role. As a scientist, I like to support my statements with hard data. You can understand then, my disappointment at not finding a single scientific study on the role of amateurs in paleontology. Past employment as a curator at a small natural history museum, the Alabama Museum of Natural History, certainly enlightened me to the vital role amateurs play in paleontology. This, along with information gleaned from communication with numerous colleagues both in the United States and abroad, provides the information for this article.

Readily apparent in discussions of amateurs in any field is the actual definition of an amateur. Webster's *Ninth New Collegiate Dictionary*, the one that allowed me to muddle through my undergraduate English composition classes and the one I still use, gives two possible definitions of an amateur: (1) "one who engages in a pursuit, study, science, or sport as a pastime rather than a profession," and (2) "one lacking in experience and competence in an art or science." The disparate nature of these definitions, one based on competency, the other on type of employment, helps to explain the difficulty in labeling someone an amateur. Jobs in paleontology are few and far between and there are numerous persons with adequate formal training in paleontology that cannot find employment in the field. There are also a significant number of persons with very little formal training that do find employment as paleontologists. To further confuse the definition of an amateur, there is, as with most fields, no guaranteed correlation between employment or unemployment as a paleontologist and competency. For the purposes of this article, I will consider an amateur to be a person who is not, or has not previously been, employed as a paleontologist or who has not received formal (college level) training in paleontology.

Probably the most obvious contribution of amateurs to the science of paleontology is the donation of important specimens to permanent collections where they can

be properly cared for and studied. Many amateurs are knowledgeable enough to recognize when they have made a find of importance and to understand the need to have it housed in an appropriate institution. Far outnumbering professionals, the participation of amateurs greatly increases the chance of making significant scientific finds. In fact, amateur finds comprise significant portions of most museum fossil collections. One example of this is the discovery of the only dinosaur egg ever found in eastern North America. The teenage amateur who found it recognized it as an important find and donated it to the Auburn University Museum of Paleontology.

In addition to finds of individual specimens, amateurs discover many important fossil collecting sites. Although professional paleontologists have training in locating sites, their limited numbers make checking all possible sites impossible. Amateur searches for collecting sites increase the possibility of important fossil finds that are associated with such sites. An obvious example is the discovery of the trace fossil site at the Union Chapel Mine by the Birmingham Paleontological Society.

No realm of science evokes more public interest than paleontology. Most persons, young and old alike, seem to have at least a passing interest in the science. The result is a never-ending torrent of public requests in matters paleontological. From giving talks in schools to identifying personal finds (some fossil, some not) the professional paleontologist becomes quickly overwhelmed. In most cases it is not that the paleontologist does not wish to respond to such requests; indeed most enjoy such activities and recognize their importance to the future of the science, but there simply is not enough time to handle them all. In the end the professional paleontologist must often adopt a policy of automatically refusing many public requests. Fortunately, the vast majority of these requests do not require the technical expertise of a professional paleontologist. An experienced amateur is often qualified to make presentations, fossil identifications, and conduct field trips for schools and other organizations. Once again amateur paleontologists are able to fill a large and important void in the science.

Few persons truly understand the tremendous

amount of time necessary to properly excavate and prepare the fossils that they see on display and in museum collections. Amateurs often play important roles in this area of paleontology. This is especially true at many smaller museums where there simply is not enough funding to pay professional preparators to handle the job. For example, while I supervised the paleontology program at the Alabama Museum of Natural History, a small museum located at the University of Alabama in Tuscaloosa, we spent approximately 600 hours on excavation and 1000 hours on preparation time each year. Of this time, amateur volunteers contributed approximately 400 hours of excavation and 300 hours of preparation, making a vital contribution to the museum's paleo program.

Over the last decade the public's interest in paleontology seems to have reached an all time high, as evidenced by the multitude of books, television programs, and movies that continue to flood the market, and increasing museum emphasis on fossil exhibits. Contrary to common public conceptions, these activities make only small, largely indirect contributions to the science of paleontology. Statistics on employment and funding in paleontology are few and very limited in scope; however, perusal of professional directories and discussion with colleagues consistently reveals two trends that have remained unchanged over the last few decades: (1) Finding work as a fulltime paleontologist is nearly impossible, and the majority of paleontology research is done as an aside pursuit by scientists paid primarily to fulfill other duties, and (2) Funding for paleontology research has remained largely unchanged. Interestingly enough, much of the limited funding for paleontology research comes from private individuals and groups, amateurs with an interest in paleontology. These contributions come in a variety of forms including donations of equipment and supplies and funding for positions from part-time student workers to endowed curatorships. Considering that the most any donor is likely to receive for their gift is a letter of thanks, his name on a plaque, or a tax deduction, his primary motivation is to further the science of paleontology. Without such generous benefactors the development of most paleontology programs would be highly restricted.

I experienced an example of this as Curator of Vertebrate Paleontology for the Alabama Museum of Natural History. Generally the museum had excellent offices, laboratories, and collection storage areas, but relied heavily on volunteer workers and lacked adequate equipment and supplies. Also, due to a lack of staff to adequately supervise operations, the labs only functioned for eight months of the year, with field work limited to the other four months of the year. The excellent facilities were largely due to the donations of private individuals during a fund raising campaign. Unfortunately, a similar strategy was not followed to provide funding for salaries, equipment, or supplies. The result was that only about 3% of the program's funding came from donations, severely limiting operations and failing to realize the potential of existing resources.

We now reach what might be called the penultimate contribution to paleontology, publication. While all other

contributions, by amateurs or professionals, are indispensable to the science, they all aim to achieve the final result of disseminating paleontological knowledge through publication of research findings. Much of their formal training having been spent on conducting research and writing papers, it is usually the professional paleontologists who produce the publications. Nevertheless, there are amateurs who, through self-study and experience, are able to conduct research and properly write up findings. In some cases they are able to obtain the hallmark of a professional paleontologist, authoring an article in a peer-reviewed scientific publication.

With the aforementioned amateur contributions to paleontology affecting paleontology programs, large and small, around the world, the importance of amateurs to paleontology is clearly evident. Also evident is the fact that, with no substantial increases in paleontology funding likely, the amateur will continue to play a vital role well into the foreseeable future.

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