Applications of gigapixel imaging in vertebrate paleontology

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ABSTRACT

Gigapixel imaging has numerous potential applications for research and education in vertebrate paleontology and associated fields. Due to its portability, and because it enables the user to quickly and easily capture enormous amounts of visual information, the GigaPan system holds considerable potential for documenting fossil localities (e.g., macrovertebrate quarries, footprint sites) and their geologic contexts (e.g., stratigraphic sections). Gigapixel imaging promises to improve the documentation of fossils as well; in particular, recent advances in the gigapixel imaging of small objects have demonstrated the extraordinary potential of these methods for documenting the morphologies of diminutive fossils in remarkable detail. Finally, gigapixel imaging constitutes a powerful tool for enhancing educational efforts in paleontology. For example, an annotated GigaPan of a museum exhibition, displayed either within that exhibition or online, provides an engaging platform for presenting information or concepts that might be more difficult to convey via traditional methods.