

Morphology and Evolution of Turtles

Vertebrate Paleobiology and Paleoanthropology Series

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Morphology and Evolution of Turtles

Proceedings of the Gaffney Turtle Symposium (2009) in Honor of Eugene S. Gaffney

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Cover Illustration: "The Ghosts of Turtles Past" by Don Brinkman

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Preface

With over 100 publications, many of monographic length, Gene Gaffney has brought research on fossil turtles to the forefront of paleontological study. His work set the stage for the current explosion of research on fossil turtles, which is showing exceptional potential for contributing to higher level concepts, such as the nature of evolutionary processes, paleobiogeography, and paleoecology. Upon Gene's retirement in 2007, the consensus among turtle researchers was that his valuable contribution to turtle research should be recognized. An informal survey of researchers at the 2007 Society of Vertebrate Paleontology meetings indicated that a dedicated meeting on fossil turtles and turtle relationships, together with a Festschrift publication, was the most appropriate way to honor Gene.

The idea of a stand-alone meeting dedicated to fossil turtles follows a tradition established by France Lapparent, who organized the first international meeting on fossil turtles in Paris, France, in 1983. Subsequent fossil turtle symposia were held at: the American Museum of Natural History, New York, USA, in 1987; the University of Alberta in Edmonton, Alberta, Canada (in conjunction with the 75th annual meeting of the American Society of Ichthyologists and Herpetologists), in 1995; and at the Zoological Institute of the Russian Academy of Sciences in St. Petersburg, Russia, in 2003. At the time of writing, plans are well underway for hosting the next symposium at the University of Tübingen, Germany, in 2012.

To emphasize that the meeting was being held in Gene's honor, it was formally named the "Gaffney Turtle Symposium", and quickly became known simply as "Gaffneyfest". The success of the meeting was proof of the high esteem in which Gene is valued by his peers. Held at the Royal Tyrrell Museum of Palaeontology in October 2009, the meeting lasted 2 full days, featured 37 talks and 16 posters, and was attended by approximately 100 people. In keeping with the desire to mark Gene's latest career milestone, the meeting was a gathering of several generations of researchers. One end of the spectrum was represented by 6 of the 13 attendees at the original 1984 Paris meeting and by 2 of Gene's classmates from university, all of whom made presentations. The other end of the generational spectrum was represented by an equal number of presentations from researchers who were either within the final stages of their graduate training or had graduated within the past year. And somewhere in the middle were presenters who had never known a time when some of Gene's classic papers, such as "The systematics of the North American Family Baenidae (Reptilia, Cryptodira)" (1972) and "Comparative cranial morphology of Recent and fossil turtles" (1979) were not available as standard references.

Many of the previous turtle meetings resulted in benchmark publications that have played a key role in the development of fossil turtle research, and in some cases, continue to be standard references. The meeting in Paris in 1984 resulted in the first volume of

Vertebrata Paleochelonica, a series that included, among other topics, reviews of fossil turtles from central Asia and Mongolia that provided western researchers with the first easily accessible overview of turtle research being undertaken in the Soviet Union. During the second meeting at the American Museum of Natural History in 1987, attendees received a compilation of translated papers on fossil turtles that fostered further development of an international perspective by turtle researchers. Thus, it was clear in the organizers' minds that to have a long-lasting impact, the Gaffney Turtle Symposium must be followed by a Festschrift volume. It was recognized early on by the editorial team that to be a fitting tribute, the Festschrift ideally should contain a mix of focused papers that would appeal to specialists along with papers having a broader scope that would appeal to a more general audience. For the latter, we solicited several review-style papers on subjects of current interest, such as the origins of turtles and development of the turtle shell. Although there are some obvious gaps in this volume (e.g., no comprehensive analyses of turtle relationships or paleobiogeography), this Festschrift contains a broad range of research and review papers, and we hope it will be a useful resource for years to come.

Don Brinkman got the ball rolling on this Festschrift project. Soon thereafter, Jim Gardner and Pat Holroyd stepped up to help the volume come to fruition, bringing with them extensive experience as editors for the *Journal of Vertebrate Paleontology*. Due to the enthusiastic response to our invitation to contribute to Gene's Festschrift, the editors realized the volume would have to take the form of a book, rather than a special issue of the *Bulletin of the American Museum of Natural History* as originally planned. At the suggestion of Walter Joyce, the editors approached Eric Delson and Eric Sargis with the idea of including this in Springer's *Vertebrate Paleobiology and Paleoanthropology* series. Pat Holroyd did the key work in drafting the proposal, which was positively received by Springer. Don Brinkman and Jim Gardner shared the workload in getting the manuscripts and other parts of the text ready for publication. Several years later, this volume is the final result of the editors' and authors' collective efforts.

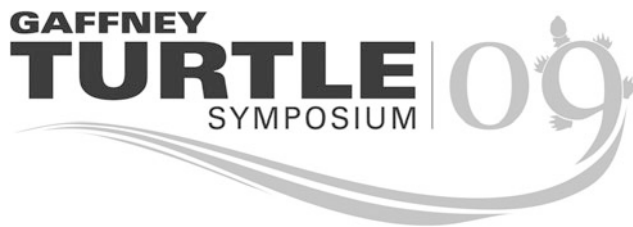


Fig. 1 Logo for the Gaffney Turtle Symposium



Fig. 2 Traditional Chinese painting presented to Eugene Gaffney during the Gaffney Turtle Symposium in October 2009

Acknowledgments

Many of the papers included in this volume were presented at the Gaffney Turtle Symposium, held in October 2009 at the Royal Tyrrell Museum Palaeontology in honor of Gene Gaffney. This symposium was made possible through the financial support of The Cooperating Society of the Royal Tyrrell Museum, the American Museum of Natural History, and a Community Spirit Grant from the Department of Culture and Community Spirit of the Province of Alberta. The support of those organizations is greatly appreciated, especially because it helped defray travel expenses for several international participants who otherwise would not have been able to attend the symposium. The symposium also would not have been possible without the assistance of the organizing committee and staff of the Royal Tyrrell Museum. As well, the editors thank the participants of the symposium, whose enthusiastic discussions led to the development and refinement of many of the ideas presented in this volume.

The role of reviewers in the peer-review process is critical for a volume of this kind. As well as generously donating their time and energy, the reviewers for this volume maintained a high degree of professionalism, provided constructive and supportive comments, and returned their reviews promptly; all of this made the work of the editors much easier. For their efforts in reviewing manuscripts, the editors thank the following individuals:

David Brockhurst,	Richard Moody,
Ann Burke,	Gary Morgan,
Edwin Cadina,	Jacqueline Moustakas,
Bob Carroll,	Hiroshi Nagashima,
Zoltán Csiki,	Jim Parham,
Igor Danilov,	Larry Powell,
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Takuya Konishi,	Matthew Vickaryous,
France Lapparent de Broin,	Michael Wuttke,
Derek Larson,	Chang-Fu Zhou,
Peter Meylan,	and several anonymous reviewers.
Andrew Milner,	

Three of the above-listed reviewers (Igor Danilov, Walter Joyce, and Jim Parham) deserve particular recognition, because they were called upon repeatedly and often at short notice to review manuscripts for this volume.

We are grateful to Eric Delson and Eric Sargis (a.k.a. “the Erics”), co-editors for Springer’s Vertebrate Paleobiology and Paleoanthropology Book Series, for their help and guidance in shepherding this project from proposal to publication. Judith Terpos, Tamara Welschot, and other staff at Springer also provided invaluable help in producing this volume. The Cooperating Society of the Royal Tyrrell Museum provided funds to cover additional costs for printing some of the color figures in this volume.

Finally, we thank Gene Gaffney for his leadership and willingness to share information and ideas about fossil turtles, paleontology, and science throughout his more than thirty year career as a student of fossil turtles. His passionate interest in turtle evolution and the information they provide for studying the processes and patterns that have shaped the history of life, his openness in sharing unpublished information and ideas, and his willingness to provide access to undescribed specimens have led to the development of a uniquely collegiate atmosphere among fossil turtle researchers. We hope this book, and the symposium that preceded it, demonstrate the esteem and respect with which Gene and his work are held.

Drumheller, Alberta, Canada, 13 January 2012

Berkeley, California, USA, 13 January 2012

Donald B. Brinkman and
James D. Gardner
Patricia A. Holroyd

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