

KAREN CHIN

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My research investigates the structure and dynamics of ancient ecosystems--particularly those of the Mesozoic Era (about 65 to 250 million years ago). I am interested in how ancient communities of organisms differed from modern ecosystems in composition and organization. Much of my work focuses on tapping information available in permineralized coprolites (fossil feces), but I also examine other trace and body fossils. My work focuses on understanding interactions among ancient organisms, and deducing the environmental conditions in which these organisms lived and were fossilized. I use a multidisciplinary approach by examining geological, biological, and chemical characteristics of fossils and compare the fossil evidence with modern ecosystems to derive paleoecological interpretations.

University of California at Santa Barbara, Ph.D. in Geological Sciences, 1996

University of Colorado at Boulder: *Assistant Professor & Curator of Paleontology*, August 2001 to present

Denver Museum of Nature and Science: *Research Associate*, March 2003 to present

Stanford University: *National Science Foundation Postdoctoral Fellow*, March 2000 –June 2001

United States Geological Survey: *Visiting Scientist*, 1996-2000 (*Ford Postdoctoral Fellow* 11/98-7/99)

Museum of the Rockies, Bozeman Montana: Currently *Adjunct Curator of Paleobotany*.

Selected publications

Farlow, J.O., Chin, K., Argast, A., and Poppy, S. *in press*. Coprolites from the Pipe Creek Sinkhole (Late Neogene, Grant County, Indiana, USA). *Journal of Vertebrate Paleontology*.

Sweeney, I., Chin, K., Hower, J., Budd, D., and Wolfe, D. 2009. Fossil wood from the middle Cretaceous Moreno Hill Formation: unique expressions of wood mineralization and implications for the processes of wood preservation. *International Journal of Coal Geology* 79: 1-17.

Lockley, M., Chin, K., Houck, K., Matsukawa, M., and Kukihara, R. 2009. New interpretations of *Ignotornis* the first-reported, Mesozoic, avian footprints: implications for the ecology and behavior of an enigmatic Cretaceous bird. *Cretaceous Research* 30: 1041-1061.

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Chin, K., Bloch, J.D., Sweet, A.R., Tweet, J.S., Eberle, J.J., Cumbaa, S.L., Witkowski, J., and Harwood, D.M. 2008. Life in a temperate polar sea: a unique taphonomic window on the structure of a Late Cretaceous Arctic marine ecosystem. *Proceedings of the Royal Society B* 275: 2675-2685.

Tweet, J.S., Chin, K., Braman, D.R., and Murphy, N.L. 2008. Probable gut contents within a specimen of *Brachylophosaurus canadensis* (Dinosauria: Hadrosauridae) from the Upper Cretaceous Judith River Formation of Montana. *PALAIOS* 23: 625-636.

Chin, K. 2007. The paleobiological implications of herbivorous dinosaur coprolites from the Upper Cretaceous Two Medicine Formation of Montana: why eat wood? *PALAIOS* 22: 554-566.

Chin, K., and Bishop, J. 2007. Exploited twice: bored bone in a theropod coprolite from the Jurassic Morrison Formation of Utah, USA. In: Bromley, R.G., Buatois, L.A., Mángano, M.G., Genise, J.F., and Melchor, R.N. [eds.], *Sediment-Organism Interactions: A Multifaceted Ichnology*. SEPM Special Publications, v. 88, pp. 377-385.

Yelinek, K. and Chin, K. 2007. Probable dung beetle burrows associated with *Daemoneelix*, beaver burrows in the Miocene Harrison Formation, Nebraska, U.S.A. In: Bromley, R.G., Buatois, L.A., Mángano, M.G., Genise, J.F., and Melchor, R.N. [eds.], *Sediment-Organism Interactions: A Multifaceted Ichnology*. SEPM Special Publications, v. 88, pp. 343-350.

Chin, K., Eberth, D.A., Schweitzer, M.H., Rando, T.A., Sloboda, W.J. and Horner, J.R. 2003. Remarkable preservation of undigested muscle tissue within a Late Cretaceous tyrannosaurid coprolite from Alberta, Canada. *PALAIOS*, volume 18, No. 3, pp. 286-294.

Chin, K. 2002. Analyses of coprolites produced by carnivorous vertebrates. In Kowalewski, M. and Kelley, P.H. [eds.] *Predation in the Fossil Record*. Paleontological Society Special Paper Volume 8. pp. 43-49.

Hollocher, T.C., Chin, K., Hollocher, K.T, and Kruge, M.A. 2001. Bacterial residues in coprolite of herbivorous dinosaurs: role of bacteria in mineralization of feces. *PALAIOS*. 16: 547-565.

Chin, K., Tokaryk, T.T., Erickson, G.M. and Calk, L.C. 1998. A king-sized theropod coprolite. *Nature*. 393: 680-682.

Chin, K. and Kirkland, J.I. 1998. Probable herbivore coprolites from the Upper Jurassic Mygatt-Moore Quarry, Western Colorado. *Modern Geology*. 23: 249-275.

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Miscellaneous

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Chin, K. and Holmes, T. 2005. *Dino Dung (Step into Reading)*. Random House, New York. 48 pp. [children's book]

Chin, K. 1997. Coprolites. In Currie, P.J. and Padian, K. [eds.], *Encyclopedia of Dinosaurs*. Academic Press. San Diego. pp. 147-150.

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