VERTEBRATE PALEONTOLOGY

Dustup in the Bone Pile: Academics v. Collectors

The Society of Vertebrate Paleontologists (SVP), used to be an awfully open-minded, tolerant group. In fact, back in the 1960s, to prove his point that "any S.O.B with an interest in old bones" could become a member, U.S. Geological Survey paleontologist G. Edward Lewis nominated his dog for membership. (The canine was duly elected.) But times have changed, and the once super-egalitarian society now finds itself divided by a bitter debate over whether a certain group should be ushered out: commercial fossil collectors who violate the SVP's ethics. That issue has provoked the next president of the society into resigning even before being anointed at the society's annual meeting, set to begin on 28 October in Toronto. Everybody in the world of paleontology is expecting the issue of commercial collecting to cause fireworks at the meeting. "It's liable to be a lot like the shoot-out at the OK Corral," warns Michael Woodburne, a geologist at the University of California, Riverside, and a member of the SVP executive committee.

The immediate cause for the resignation of president-elect Clayton Ray, a paleontologist at the Museum of Natural History at the Smithsonian Institution, was a resolution passed by the executive committee in June calling for the "consideration of expulsion from the society" of any commercial dealers who engage in unauthorized fossil collecting on public lands. Ray, who has worked closely with commercial collectors, believes the resolution is too dogmatic and the executive committee had not considered it in a "democratic enough fashion."

And that resolution isn't the only contentious issue related to commercial collecting that the members of the society will be called on to discuss. Another is a bill introduced in the Senate by Democratic Senator Max Baucus of Montana that would forbid commercial enterprises from gathering fossils on federal land—now prohibited by a tangled web of regulations but not strictly forbidden by federal law. The commercial operators argue that even the present regulations are unconstitutional and that the proposed law would further infringe on their rights.

Like scattered signs on the surface of the earth that signal a buried cache of dinosaur bones, the society's resolution and Baucus' bill are surface manifestations of an enmity that has disrupted the once-amicable relations between professional paleontologists and those who collect old bones for profit. The researchers complain that they are being driven away from choice sites—and out of the market—by a fad that has made dinosaur relics as desirable in the world of collectibles as paintings by Van Gogh. The result, say the academics, is that the public is losing choice pieces of its prehistoric heritage—data needed to understand such things as what the consequences of greenhouse warming might be. The commercial collectors, on the other hand, argue that they're just as entitled to the fossils as anyone else, and that they and their clients get real pleasure out of their collections, whereas any bone that becomes an academic find is likely to wind up at the back of some dusty museum drawer. They also fear that protective legislation for fossils on public land might one day be extended to private lands, as is the case in the dinosaur-rich province of Alberta, where all fossils belong to the government.

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Top dollar. An allosaurus skull found in Utah went for $100,000 earlier this year—despite much plaster reconstruction.

Although their numbers in the SVP are small (some 40 of 1500 members), many commercial collectors are coming to Toronto to wage war. "We didn't start this battle," says John Kramer, who owns a commercial enterprise in Golden, Minnesota, called the Potomac Museum Group and is president of the American Association of Paleontological Suppliers, an organization representing commercial fossil dealers. "It's the academic paleontologists who've drawn the line; they've made it us versus them. Some of them think we're nothing but the devil's own brew," he adds. "It's their mission to outlaw all commercial collectors. We can't ignore that kind of rhetoric—it's a call to arms."

But in their zeal to fend off the academics, the commercial collectors have been broadcasting inflammatory rhetoric of their own. Peter Larson, president of another commercial venture, the Black Hills Institute of Geological Research in Hill City, South Dakota, has labeled Baucus' bill "The Governmental Paleontologist Welfare Act"—words calculated to raise academic hackles. And in flyers distributed to amateur fossil collectors (who number at least 200,000), Larson has stated that the bill will limit their access to public lands—and could even lead to criminal charges if they or their children chance to pick up a fossil. (In fact, the bill applies only to commercial collecting and makes special provisions for amateurs to collect on public land.)

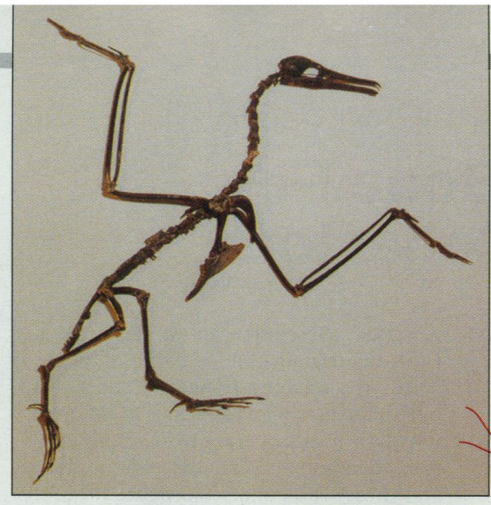
"It's a pack of lies that the bill will mess up amateurs," fumes Jack Horner, head of paleontology at the Museum of the Rockies in Bozeman, Montana, and the recipient of a MacArthur Grant for his discoveries and interpretations of dinosaur nesting sites. "Larson's words remind me of the creationists. Just like them, he takes everything out of context and exaggerates and misinterprets—all for his own advantage," says Horner.

The old-bone game hasn't always been so heated. Like warm-blooded and cold-blooded species inhabiting an ancient landscape, academics and commercial collectors once coexisted quite nicely. Many great collections of vertebrate fossils (including the dinosaurs at the American Museum of Natural History in New York) were started by wealthy individuals who funded expeditions and paid top dollar for the best specimens. Commercial collectors have also been key suppliers of fossils to schools and, because they are able to work in the field year-round, are often responsible for some of the most stunning discoveries. (Peter Larson's group, for example, in 1990 found the most complete skeleton of a *Tyrannosaurus rex*—a specimen dubbed "Sue," now in the hands of the U.S. government, that is the subject of a complex legal battle over ownership.) In many cases, commercial collectors also readily donate their rare finds to museums and universities. But, like species competing for shrinking resources as the climate turns colder, relations between the two groups have turned savage in the past decade.

Some academic paleontologists blame the change on a surge of popular interest in dinosaurs and the desire of Europeans and Japanese for specimens of their own; others on

the taste of interior decorators or the advice of investment counselors. Whatever the cause, the fossil market is booming. "Twenty years ago you might see a skull of an oreodont [a hoofed relative of camels and pigs that lived 35 million years ago] for sale at a gas station near the Badlands for $25 or $30," says Michael Voorhies, curator of vertebrate paleontology at the University of Nebraska's State Museum in Lincoln. "Today, skulls of anything go for hundreds if not thousands of dollars." Fossils of everything from 150-million-year-old shrimp to bags of fossilized dinosaur eggshell to complete skeletons of mastodons and stegosaurs are marketed at gem and mineral shows and through catalogs—for breathtaking prices.

Last spring, at the world's largest fossil event, Tucson Week in Tucson, Arizona, fossilized shrimp were fetching $800 apiece, while the skeleton of a triceratops was being offered for $990,000, and a bog-preserved 11,600-year-old mastodon was on the block for a cool 1.5 million greenbacks. Investment-minded collectors can keep track of their fossils' value by reading the quarterly *Fossil Index*, a newsletter published by the commercial venture Prehistoric Journeys in Santa Barbara, California. The *Index* carries articles such as "Investing in Fossils during 1992," along with cheery quotes from *The Wall Street Journal*: "There's only one way fossil values can go...and that's up!"



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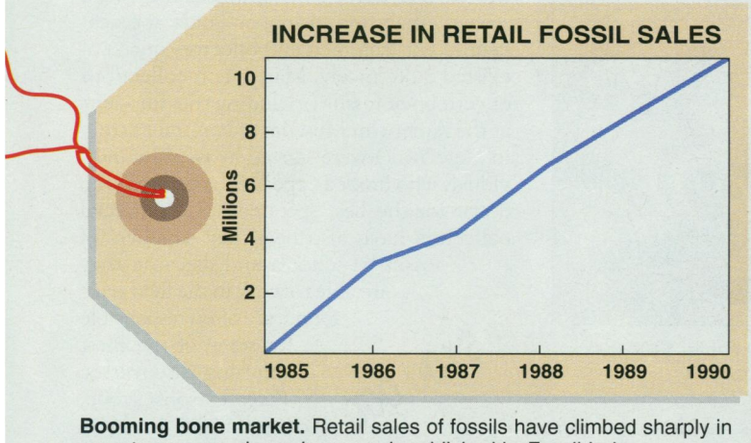
For sale. This Pliocene specimen of a fossil bird called *Phalocrocorax* is on sale for $6,000.



Booming bone market. Retail sales of fossils have climbed sharply in recent years, as shown by a graph published in *Fossil Index*.

This burgeoning trade alarms academic paleontologists who worry that fat prices tempt commercial collectors to work on public lands, where they aren't supposed to be. (In a very few cases, permits are issued to commercial collectors to work on federal lands, but the fossils found this way cannot be sold.) Because the amount of public land in the fossil-rich west is so vast—national parks, monuments, forest service, Bureau of Land Management (BLM), and state properties are all included in this designation—and the number of rangers are so few, land managers cannot possibly patrol their entire domain. For example, the Badlands National Park in South Dakota employs four permanent and three seasonal rangers to oversee 243,000 acres. Consequently, nearly every academic paleontologist and land manager has a horror story to tell about sites being vandalized and specimens stolen.

"To me, fossils are sacred objects that should not be bought and sold," says Voorhies. "So when I came on one of my sites [on BLM land] and saw that the fossils had just been chopped out of the wall with the intent of selling them to who knows...well, I just wanted to weep."

Poaching of fossils on public land has become such a problem that the rangers themselves are baffled by how best to control it. "Fossils are being dynamited, drilled, and removed by the ton," says Bart Fitzgerald, a special agent with the Utah BLM State Office in Salt Lake City. "Unfortunately, we're about 20 or more years behind in getting a sense of what's really going on." Only two weeks ago Lee Spencer, the Utah State paleontologist for the BLM, discovered several miles of dinosaur deposits that had been so badly damaged they "looked like a bombing range." And the current laws don't carry nearly as much bite as a tyrannosaurus: One man convicted of collecting and selling fossils from Badlands National Park was fined a trifling $50—even though he had sold a fossilized turtle from the park for $35,000. Baucus' bill would up the charge to a year in prison and a $10,000 fine.

That's a change many academic paleontologists would welcome, since they argue that public lands should be protected by federal legislation and set aside for science, just as archeological sites are. Commercial operators counter that the academics are an "elite group who don't want a fossil touched until they've removed it, written a paper and gotten their notoriety, and stuck the fossil in a drawer," as Barry James, the owner of Prehistoric Journeys, says.

But the scientists counter that their concerns are more substantial than adding another specimen to museum collections. "The days of being a stamp collector are long over," explains Ted Fremd, the paleontologist at the John Day National Monument in Oregon. "We work in multidisciplinary teams now to excavate a site, because we want to understand the paleoecology of the past—who was living with whom; what plants were there; what were the soils like? Commercial collectors don't take the time to do this—there's no money in it. So, while they may be making important discoveries in terms of finding the biggest dinosaur, they are not engaged in hypothesis testing, in truly trying to understand the past. The specimens they find only end up decorating somebody's shelf."

Adds Charles Repenning, paleontologist emeritus at the USGS in Denver, "What's missing in this debate is an understanding of why fossils are important. They are important in reconstructing geologic time—and without that you can't predict what will be the results of the greenhouse effect, or the effects of deforestation on timber, or the suitability of sites for radioactive waste storage." Fossils in museums, he adds, may entertain the public, but that is not the main purpose of paleontology. "Its purpose is to determine what and when events have happened in the past so that the future may be better evaluated."

The academics far outnumber the commercial collectors in the SVP, but whether the hardliners' desire to discipline the commercial types will prevail in Toronto remains to be seen. William Clemens, the University of California, Berkeley, paleontologist who replaced Clayton Ray as president-elect, urges tolerance. "I think we all have to recognize that there is a diversity of viewpoints on this issue," he says. "All of us—professionals, commercial and amateur collectors—share the common ground of an interest in prehistoric life....We need to find a way to cooperate so that we get the maximum benefit from fossils, particularly those which come from public land. Hopefully, we can achieve that and then get on with the science." If that happens, perhaps paleontologists will be able to stop throwing the dirt and start digging it once again.

–Virginia Morell