Fossils, During and After Oil

by Thomas J. Akers

This is a story of an oil company employee—myself, my wife Rosemary, and how we got interested in fossils. Paleontology became our lifelong hobby. Along the way we raised three children and spent almost every weekend on outcrops finding not only specimens but meeting snakes, scorpions, spiders, and poison ivy. Eventually our passion for fossils led us to writing and to six publications on identification of Texas invertebrate fossils.

> My credentials follow. I retired from Shell Oil Company in 1987 after 33 years of service at 56 years of age. This was as soon I was financially able. I served as a chemist/engineer in product research, marketing technical service, field troubleshooter, and product quality specialist in setting and maintaining specifications in field distribution. My primary product responsibility area was fuels from propane, special products (solvents), motor gasoline, aviation kerosene, diesel fuel, and residual fuels (low to high viscosity). I hired in with Shell at Wood River Refinery Research Laboratory (across the Mississippi River from St. Louis) in 1954, was transferred to Chicago in 1965, and then to Houston (Head Office Research and Westhollow Research Center) in 1970.
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> My formal education was a BS in Chemistry in 1952 and an MS in Bio/Organic/Radio Chemistry in 1954 from Oregon State College (now University). My thesis involved investigating detoxification differences of 2,4 D (herbicide) between corn and bean plants using radioactive carbon. I have written about 30 internal Shell reports and have two United States patents.

I have lived in Texas longer than any other place and now consider myself a Texan. My work required extensive traveling in the United States, and I have been in every state. I once commuted from Houston to Shell's Martinez Refinery in California for 18 consecutive months, week-in and week-out, on a propane problem that involved the government's Consumer Product Safety Commission and potential product liability.

My interest in fossils began rather slowly in Wood River in about 1960 when my boss hunted trilobites in Grafton, Illinois and plant fossil concretions from the coal beds in Illinois and Indiana. Our fossil interest increased in Chicago when Rosemary and I hunted Pennsylvanian plant fossil concretions from the Peabody Coal overburden in Braidwood and Ordovician invertebrate fossils from a quarry near Marengo. Rosemary has a BS in Medical Technology from Montana University. We were fascinated by the many different types of plants and even more so by the brachiopods, corals, bryozoans, and snails. We became inveterate beach combers and were astonished by the 300-500 million year old plants and shells. Our interest grew even further when our seven-year old son became interested in dinosaurs and we started investigating. We made many visits to Chicago's Museum of Natural History. We continued hunting fossils in Montana and Oregon when visiting parents on vacation.

When we moved to Texas, we joined Paleontology Section, Houston Gem and Mineral Society as soon as we knew of its existence in about 1973. This club was started in the late 1960s by Irene Offeman, fossil curator of the Houston Science Museum. Needless to say, we went on every field trip we were able to make, and this was about 10 per year. We have hunted fossils in New Mexico, Oklahoma, Colorado, Utah (trilobites), Wyoming (fish), and Alberta.

We tried hunting vertebrate fossils in the badlands northwest of Crawford, Nebraska and spent many an enjoyable week camping and searching for bones and teeth of Oligocene age fossils. These were the big mammals, such as titanotheres, rhinoceros, oreodonts, horse, pig, turtles, etc. This was hard work.

You often had to dig bones out of many feet of matrix (you never knew how deep when you started) and stabilize them with Elmer's glue and plaster of paris. We gave vertebrates up when the government got sensitive about such material.

We also attended all club schools that were available. Irene Offeman offered a six-week free fossil class "An Introduction to Paleontology," which we took twice. This course dealt with history of paleontology, types of fossils, radioactive time dating, geological maps, the geological time scale, stratigraphy, and index fossils. The course was a prerequisite for taking a 12-week course on "Invertebrate Paleontology" given by Dr. R. P. "Dick" Zingula, a professional paleontologist with Exxon. The text for this course was *Invertebrate Fossils* by R. C. Moore, C.G. Lalicker, and A.G. Fisher. The course included a two-day field trip with identification of our fossils. We took this class three times.

In 1977 Irene Offeman started a Bivalve Study Group (affectionately known as the Clam Clan) which included myself, Rosemary, and five other club members. The objective of this study group was to conduct a survey of 135 professional paleontological and geological references in the club library and Rice University. We were to find illustrations and descriptions of all fossil bivalves found in the Cretaceous formations in Texas. Genera and species lists were compiled along with a reference list. An annotated list of species containing a synonymy of all prior names for each fossil with reference for each and the Cretaceous period in which it was found. Classification and genera position were in accordance with the Treatise of Invertebrate Paleontology. Field trips were taken to search for the type localities for each fossil. An internal "Bivalve Picture Book" was compiled in 1980 containing an illustration (copy of literature picture), reference, and formation for each of 656 bivalves to help club members identify their fossils.

In 1982 our first publication *Texas Cretaceous Bivalves and Localities* was published. It contained all lists mentioned above and brief descriptions and illustrations—often two to three views—of about 100 of the most commonly found bivalves. Fortunately Rosemary is artistically talented, and all illustrations in this publication are her pen and ink drawings. Also included is an illustrated glossary of terms and steps to identification. This publication sold 1500 copies by the time we let it go out of print in about 2001.

Rosemary and I were very sad to see our study group end as we learned a lot, and it gave us something to do when we were not on the outcrops. We decided to do a publication on echinoids on our own. This required us to do a number of things. We had to upgrade our computer and word processor and we had to start acquiring publications (original ones if possible or copies if not) on Cretaceous fossils on which period we decided to specialize. We obtained every publication that was available from the University of Texas, Bureau of Economic Geology. We soon learned that Rice University library was somewhat limited and had to expand our scope to the libraries at the University of Houston, the University of Texas (four libraries, and some still use the Dewey decimal system), and Texas A&M University. We also got on the mailing list of every book dealer handling old paleontological and geological publications.

We spent about one hour a day on average working on various aspects of our project. Using the guidelines set by our previous study group and the 1928 publication *Handbook of Texas Cretaceous Fossils* by W. S. Adkins, we came out with our second (first solo) publication, *Texas Cretaceous Echinoids* in 1987. In the end we located 148 echinoid species in the Texas Cretaceous. This publication sold out 1000 copies by 2002 and has now been reissued as a book on CD with searchable text.

We made our one deviation from the Cretaceous Period when we were asked to join the Brachiopods study group headed up by John Herbert and three other club members. This meant acquiring a whole new set of publications. We found 165 species in the Texas Pennsylvanian. Applying the same techniques as previously, we came out with *Texas Pennsylvanian Brachiopods* in 1990. We have sold over 900 copies to date.

In the 1989 school year, Rosemary and I took a course in Physical and Historical Geology from Tomball Community College. Dr. Hulon Madely was our instructor. This was very educational for us and interesting as we were the grandparents for the class. We also took Dr. Madely's four day/three night field trip to Big Bend National Park. This was somewhat of an endurance contest, but we enjoyed it very much. It was nice to have experts show and explain all of those interesting geological features.

We next started work on Texas ammonites. It was a much bigger and more complicated project than before, and we obtained the aid of John and Bobbie Emerson. Little did we realize that this was a very active field and that over a dozen new publications dealing with Texas ammonites were issued each year. This meant we had to stay current and establish a cutoff date. We ended up with 525 ammonite species and 7 nautiloid species in the Texas Cretaceous. We published *Texas Cretaceous Ammonites and Nautiloids* in 1994, and it has sold over 800 copies to date.

At this point Rosemary and I set a goal of completing the Texas Cretaceous mollusks, and we decided to do the gastropods next as the bivalves, although incomplete, already had a framework. We completed *Texas Cretaceous Gastropods* in 1997. We found 576 gastropod species in the Texas Cretaceous literature. It has sold about 500 copies to date.

Bivalves now remained our last Cretaceous challenge. We set to work and shortly found out this was a larger and more complicated project than we had first considered. We persevered and published *Texas Cretaceous Bivalves 2* in 2002. We found 816 bivalve species in Texas Cretaceous literature. So far sales are about 200 copies to date.

Needless to say, we have learned a lot doing all the library research on our writing on Texas fossils. These publications are now in university and museum libraries all over the world including England, France, Germany, Australia, and Japan as well as in many individual states including Texas. I am sure our last publication is considerably more professional than the first. The reviewers of our last book included four PhDs (3 in paleontology), one MS (published several professional articles) and one 20+ year dedicated amateur fossil collector. All of these books are reasonably priced and help both the amateur and professional paleontologists in identifying fossil genera and species. These books are for sale at the Paleontology Section, HGMS at 10805 Brooklet, Houston, TX 77079 or the www.HGMS.org Web site

We have met and corresponded with many very interesting people in our studies. One of our most prized is Dr. W.A. "Bill" Cobban, Paleontologist Emeritus with the US Geological Survey. He is one of the world experts on ammonites and still publishes about a dozen articles a year, even after retiring, He contacted us shortly after we published our *Texas Cretaceous Ammonites and Nautiloids* book and complimented our efforts. (Cobban dominated our reference list in this book.) Since then he has been sending us many of his ammonite and bivalve publications and helped review our last book as he is also an expert on the inoceramid bivalves.