
Clarence Johnsrud family donates plant fossil collection and funds for a Heritage Center fossil exhibit and renovation of the new Geological Survey Paleontology Laboratory

by
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In 1987 a road construction crew began rebuilding highway 1804, the old Lewis and Clark trail, north of Trenton, Williams County. Bulldozers broke through a hard, cream colored mudstone in the Paleocene age (about 58 million years old) Sentinel Butte Formation. This mudstone contains some of the most beautifully preserved plant fossils, mostly leaves, found anywhere in the world. Clarence Johnsrud, a sugar beet farmer whose farm is south of Trenton, was informed about the fossils by a neighbor. This began a quest by Clarence to preserve these fossils for posterity from what is now called the Trenton Hill fossil site.

Because of Clarence's perseverance, the supervisor of the road construction crew allowed him to salvage several tons of the fossil-bearing rock before the remainder were re-buried beneath the new road. The salvage took several days with his farm loader and truck (Figures 1 and 2). He broke down the large blocks of rock at the fossil site with hand tools and hauled them to his farm where they were unloaded into the barn. Clarence began splitting the rock with hammer and chisel to recover the fossils. He estimates, over the past several years, that he has cracked opened twenty tons of rock and has uncovered several hundred exquisite leaf fossil specimens (Figure 3).

Clarence contacted me in 1989 about this important site and donated many leaf fossil specimens to the North Dakota State Fossil Collection. Many specimens were exhibited at the North Dakota Heritage Center in Bismarck in a North Dakota fossil exhibit in 1991 and 1992. An unusually well preserved, spectacular *Platanus* (sycamore) leaf has been on exhibit in the main gallery of the Heritage Center since that time (Figure 4 and 5a). Over 750,000 people have enjoyed seeing it. Clarence has also donated a collection of plant fossils to the University of North Dakota where they are on display in the museum area of



Figure 1. Clarence Johnsrud unloading slabs of leaf-fossil bearing rocks collected from the Sentinel Butte Formation Trenton Hill fossil site.



Figure 2. Clarence Johnsrud with loader used to collect leaf-fossil bearing rocks from the Tenton Hill site.

Leonard Hall, the geology building. Exhibits of some of Johnsrud's leaves can also be seen at Minot State University and the University of North Dakota–Williston. Clarence has also given some specimens to the Denver Museum of Natural History and the Florida Natural History Museum. Clarence has now decided to donate the remainder of his collection to the State of North Dakota to be curated into the State Fossil Collection here at the Heritage Center. The Clarence Johnsrud family has also donated \$200,000 to establish a permanent exhibit of the plant fossils and to renovate the new paleontology laboratory, both located at the Heritage Center.



Figure 3. Clarence Johnsrud splitting leaf-fossil bearing rocks in his barn near Trenton.

This exhibit, called the North Dakota Everglades, will be about the kinds of plants and animals that lived in North Dakota about 58 million years ago, and the environment and climate in which they lived. At that time, North Dakota was a swampy lowland with a subtropical to tropical climate, similar to areas of south Florida today. Vast swamps covered areas of western North Dakota and forests with huge redwood trees grew in a rain forest setting in the upland areas. Other exotic plants, such as bald cypress, sycamore, magnolia, and palm also grew here. Many of these are represented in the Johnsrud collection. The thick vegetation build up in these swamps has since been compressed into lignite beds which are today extensively mined. Although the exhibit will feature Clarence Johnsrud's leaf fossils, it will also contain plant fossils from other North Dakota sites. Included in the exhibit will be skeletons of crocodiles, champsosaurs, and turtles and remains of alligators, fish, mammals, snails and clams. A painting based on fossils found in North Dakota, blown up to a wall size mural, will show the community of plants and animals that lived in North Dakota during the Paleocene Epoch about 58 million years ago. The North Dakota Everglades exhibit will accompany the new Marine Cretaceous (Cooperstown Mosasaur) exhibit as part of the Corridor of Time display in the main gallery of the Heritage Center. Because this exhibit will take quite some time to complete, a temporary exhibit of Mr. Johnsrud's leaf fossils will be installed in the main gallery this fall.



Figure 4. Clarence Johnsrud with some of his plant fossils, including *Platanus*, at the 1991 opening of the North Dakota fossil exhibit at the Heritage Center.

The Johnsrud leaf fossil collection is also very important from a scientific perspective because of the high quality of preservation of the leaves. Often even the smallest veins in the leaves are preserved. Over twenty species of plants have been identified from the collection (Figure 4). One rare specimen, leaves of the horse chestnut or buckeye, *Aesculus*, is included in a recent article regarding the antiquity of that plant by Steven Manchester from the University of Florida (Figure 5b).

The North Dakota State Fossil collection has grown substantially since its creation by a legislative act in 1989. The renovation project will triple the size of the area designated for the State Fossil Collection, which will allow expansion of the collection for many years. The State Fossil Collection, fossil preparation laboratory, and the Paleontology offices will be moved to the new area when the renovation is completed in July, 2000. In recognition of Johnsrud's contribution, the Geological Survey paleontology laboratory will henceforth be called the Johnsrud Paleontology Laboratory.

The Industrial Commission of North Dakota presented the Johnsrud family with a Certificate of Appreciation for their generous donation on May 18, 2000 during a ceremony in Governor Schafer's conference room in the State Capitol (Figures 6 and 7). Members of the Johnsrud family that were present at the ceremony were: Clarence and his wife Clarice, their son, Keith and his children Alexis and Allison, and their daughter, Cheryl LeRous, Governor Ed Schafer, Attorney General Heidi Heitkamp, and Commissioner of Agriculture Roger Johnson all met and personally thanked each member of the Johnsrud family. Governor Schafer commented that, "We are very appreciative of this generous gift from the Johnsrud family. By this significant contribution they are recognizing the importance of North Dakota's valuable fossil resources and providing a place where all

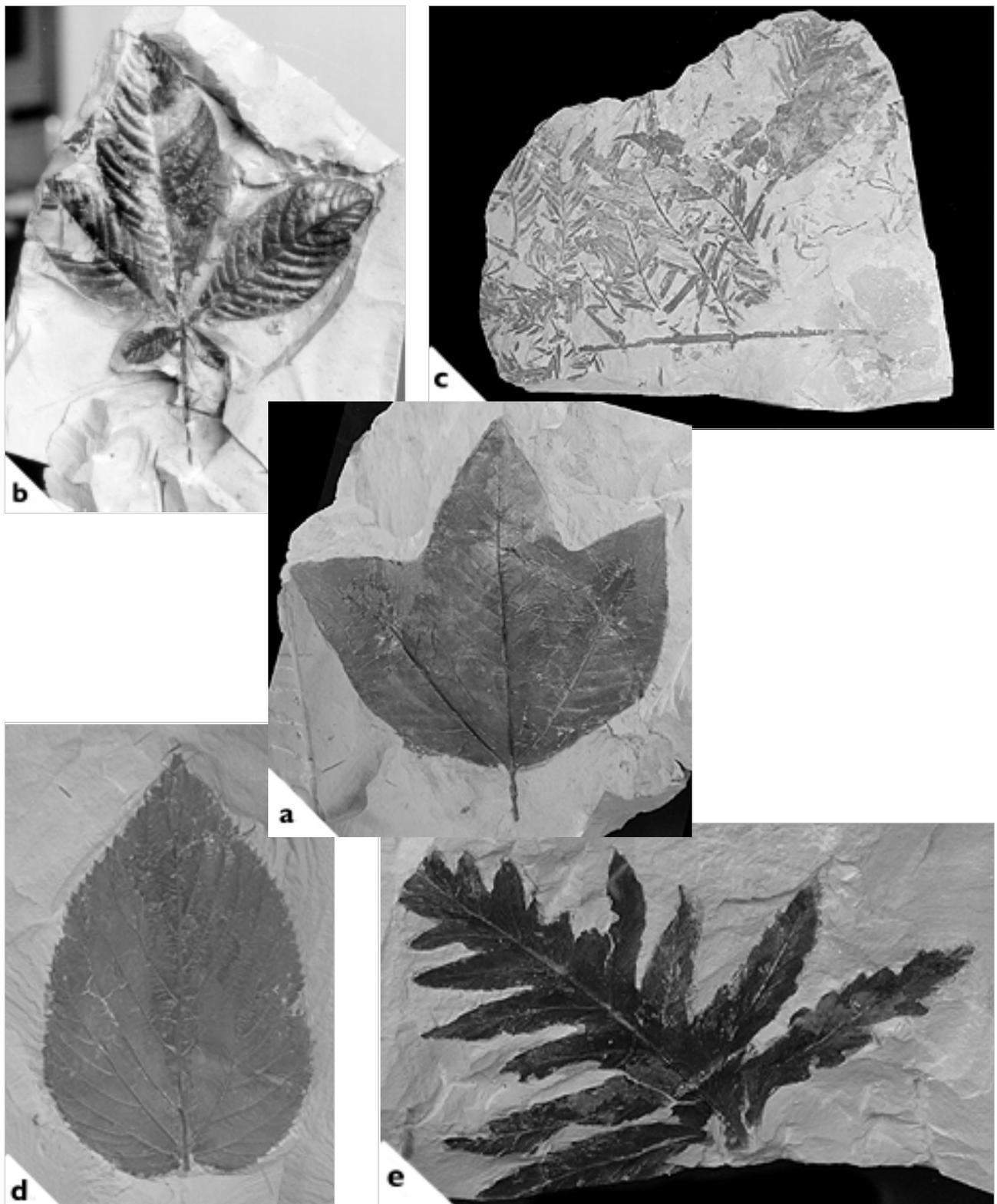


Figure 5. Leaf fossils in the North Dakota State Fossil Collection donated by the Johnsrud family.

- a. Sycamore, *Platanus*, 8 inches wide. ND 92-59.1
- b. Horse chestnut, *Aesculus*, 7 inches high. ND 92-59.8.
- c. Dawn redwood, *Metasequoia*, 8 inches high. ND 92-59.3
- d. Honeysuckle, *Viburnum*, 4.5 inches high. ND 92-59.6
- e. Fern, *Onoclea*, 3.5 inches high. ND 92-59.5

North Dakotans will have an opportunity to look back in time.” Attorney General Heitkamp said, “The funding provided by the Johnsrud family will enable the renovation and expansion of the Geological Survey paleontology laboratory at the Heritage Center. In recognition of this gift, the new laboratory will be called the Johnsrud Paleontology Laboratory.” Commissioner of Agriculture Johnson noted that, “ This gift will also be used for a new fossil exhibit in the main gallery of the Heritage Center that will display fossils of plants and animals that lived in North Dakota millions of years ago. This will be a display that can be enjoyed by everyone touring the Heritage Center and can be a valuable learning experience for our children as they view a part of our rich geological history.” I would like to add my personal thanks because the Johnsrud donation will greatly enhance our ability to preserve North Dakota’s valuable fossil resources for the enjoyment and education of the citizens of North Dakota and visitors to our state.



Figure 6. Clarence Johnsrud showing Governor Schafer plant fossils at the appreciation ceremony at the State Capitol.



Figure 7. Johnsrud family and commissioners at the appreciation ceremony at the State Capitol. Back row, from left to right, Keith Johnsrud, John Bluemle, Cheryl LeRous, John Hoganson, Commissioner of Agriculture Roger Johnson, Clarence Johnsrud, Clarice Johnsrud, Sam Wagner, Attorney General Heidi Heitkamp, Governor Ed Schafer. Front row, Alexis and Allison Johnsrud.