Contributions from amateur collectors contribute to Illinois' status as one of the world's best sites for soft-bodied fossils.

Buried Alive

Story By Kathy Andrews
Photos By Andrea Garcia

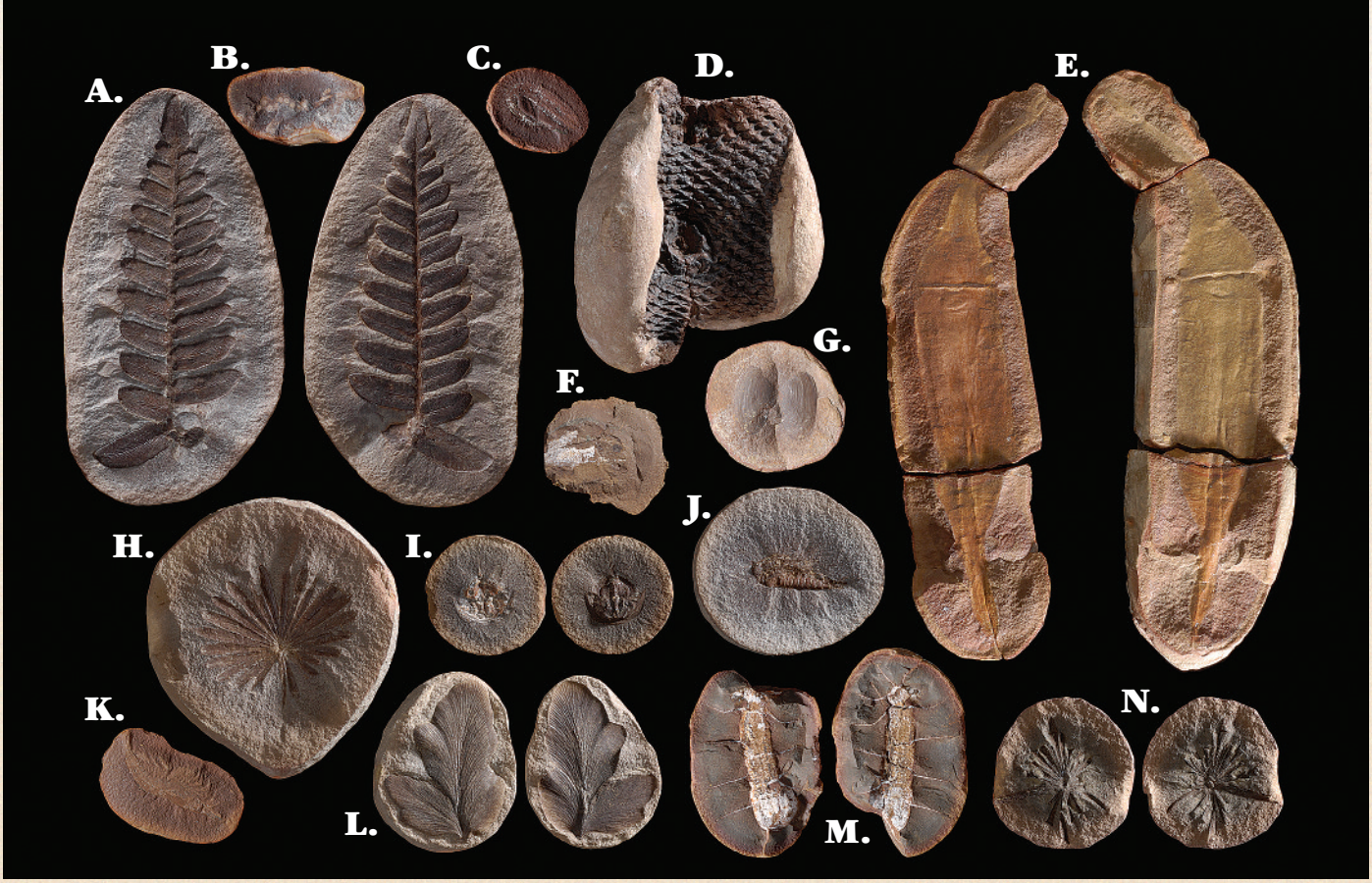
They are described as elegant, exciting and impressive, and the type of discovery many dream about, but few are fortunate enough to claim during a lifetime. Their rarity, quality and diversity elevate their land of origin—Grundy, Will, Kankakee, Livingston and LaSalle counties—to a global place of honor.

Illinois State Museum geologist Chris Widga and Illinois College intern Laura Reynolds examine fossil nodules in Grundy County.

These are the Mazon Creek fossils, fossilized concretions representing more than 400 species of plants and 320 species animals found in the Francis Creek Shale that formed during the Coal Age 300 million years ago. Their rarity comes not because of their fossilized hard parts of animals (bones, shells, teeth), but because conditions permitted fossilization of soft body parts (eyes, digestive tracts, entire jellyfish and worms). Along with a handful of locations worldwide, the Mazon Creek fossil deposits are known as Lagerstätte, a German word that translates to "resting places." It's a term now used by geologists to describe spectacular deposits of fossils.

"The majority of the Mazon Creek specimens were collected once surface mining became common in the 1920s," explained Chris Widga, assistant curator of geology at the Illinois State Museum. Amateur paleontologists, such as Francis Tully, George Langford, Sr., and Joe Jobst, have significantly contributed to museum collections.

Widga pulled out a drawer of Tully monsters from a wall of cabinets 20 drawers high and eight drawers wide,



A. a **fern** (*Neuropteris*); **B. amphibian** eggs; **C.** a ringed (annelid) **worm**; **D.** bark and a leaf scar of a **giant seed fern** (*Ulodendron*), which reached heights upwards of 130 feet; **E.** Illinois' state fossil, the **Tully monster** (*Tullimonstrum gregarium*), was an aquatic invertebrate that some scientists believe may deserve its own phylum; **F.** a small bony **fish** (*Elonichthys*); **G.** the orientation of **bivalves**, or burrowing mollusks, can be seen in the shale as if they were trying to dig out of the silt that was accumulating on top of them; **H.** *Annularia* were leaves of tree-sized relatives of the modern horsetail; **I.** *Euproops thompsoni*, a small relative of the modern **horseshoe crab**; **J.** a **shrimp** (*Acanthotelson stimpsoni*); **K.** an extinct order of an omnivorous **crustacean**, *Belotelson magister*; **L.** a seed fern (*Neuropteris*); **M.** an **unsegmented worm**, *Priapulites konecniorum*; **N.** the whorled leaves of *Annularia stellata*, a relative of the modern horsetail.

revealing small jewelry boxes housing the museum's recently expanded collection.

"Tully became somewhat of a household name in Illinois when his namesake Tully monster was designated our state fossil in 1989," Widga continued. With the recent acquisition of the Jobst collection, scientists can examine the range of variability in the species, which might offer clues to how it lived.

George Langford, Sr. followed in the footsteps of his father and grandfather, possessing a deep curiosity in nature and pursing engineering as a vocation. Langford's interest in paleontology began when he was 10 years old, and it is his collection of fossils from the Mazon Creek area that gained him great fame. After retiring at 71, Langford began a second career as a paleobotanist at The Field Museum in Chicago.

"Langford probably cracked open hundreds of thousands of nodules in his

Large fish scales (right) are common vertebrate fossils in the Mazon Creek area. One of the large predator fishes of its time, lungfish, *Sagenodus occidentalis*, similar to one depicted at the Illinois State Museum, may have grown to a length of 3 feet.

(Photo by Doug Carr, ISM.)

The Mazon Creek fossils are found within the Francis Creek Shale, formed during the Coal Age about 300 million years ago.

lifetime and provided the world with one of the best collections of Mazon Creek fossils," Widga said.

The Illinois State Museum recently acquired more than 1,500 fossils from the collection of another amateur, Joe Jobst, a school teacher from South Chicago who took his fossil hunting students on weekend trips to active Grundy County surface mines in the 1960s and 1970s.

"The Mazon Creek fossils are mostly an accident of preservation," Widga explained. "A tropical climate existed in this region during the Pennsylvanian period. At least one large river flowed into an estuary and then the ocean. As sediment accumulated on this river delta, the mud surrounding buried organisms was compressed, then turned to stone."

"The days of cracking open a couple of hundred nodules in a couple of hours are gone," Widga said in noting that the heyday of fossil hunting at Mazon Creek has passed. The mines have closed, and thick undergrowth is common, making locating shale exposures difficult.

Fossil seekers possessing a day permit may collect fossil nodules within identified areas at Mazonia-Braidwood State Fish and Wildlife Area.

Hunting for Mazon Creek fossils

Mazonia-Braidwood State Fish and Wildlife Area is well known for Pennsylvanian-age fossils. A day permit is required to collect fossils and may be obtained from the park office or Web site. A form also is available for reporting what was found.

Collecting rules:

1. DNR will manage specific areas with minimal vegetation to facilitate surface exposure for fossil collecting. Collecting also is allowed in other areas where the surface is exposed from erosion.

2. The daily limit of fossil concretions which can be removed from the site is one five-gallon container per person. This limit will allow many people to enjoy this activity.

3. Fossils collected will not be commercially sold.

4. A signed copy of the permit must be available for inspection by park personnel throughout your visit.

5. Fossil collecting is restricted to March 1st to Sept. 30th.

For further information, contact Mazonia-Braidwood SFWA staff at P.O. Box 126, Braceville, IL 60407, call (815) 237-0063 or visit www.dnr.illinois.gov/Parks.

For a fraction of geologic time, scientists and amateurs took advantage of the opportunity to glean remnants of a diverse, 300-million-year-old tropical environment. Mazon Creek fossils attract the attention of researchers throughout the world and earn Illinois fame as home to a rare Lagerstätte.

Photographer Andrea Garcia worked with the Illinois State Museum as an intern through Illinois College.