

MAZON CREEK SLIDE SET--1987
NORTHEASTERN ILLINOIS UNIVERSITY PROJECT

1. Strip Mine Spoil Ridges, Pit 11, Will Co., Illinois. We've all "been there." (Circa 1970.) Describe concretions...freeze/thaw, do not hammer. (Fieldiana Vol. 12, No. 1)
2. Strip Mine High Wall, Pit 11, Will Co., Illinois. Francis Creek Shale; roof of Colchester (No. 2) Coal; see upright tree on page 49, "Field Guidebook," (Series No. 8, 1970, I.S.G.S.) pp. 56-57 for Essex/Braidwood fauna abundance record.
3. Neuropteris (leaf)...a seed fern. Generally tongue-shaped. Venation becomes fan-shaped near apex; surface hairs on Scheuchzeri. (ESCONI "Mazon Creek"); 60' to 70' high; second most common after Pecopteris. Individual leaf up to 12" long.
4. Alethopteris (leaf)...pinnules directly and broadly attached to rachis (axis); mid-vein sharply defined and straight...seed fern, not-common. (ESCONI, "Mazon Creek").
5. Annularia radiata (leaves of Calamites)...long leaves narrowing gradually to a sharp point; no thorn tip; widest near the middle; 18-24 leaves per whorl. "Calamites" (usually stems) were treelike and grew up to 30 feet tall. Stems were hollow, so we get both external and internal casts. (ESCONI, "Mazon Creek") Related to modern horse-tails; grew in swamps. ("A View of the Past," p. 92).
6. Lycopodites (lycopod)...Tiny pointed leaves closely attached to small stems... leaves often have a feathery appearance...resembles the modern ground pine. Frequently confused with terminal parts of Lepidodendron & Sigillaria branches. Tree-like, so we see bark, also. (ESCONI "Mazon Creek"). Started in the Devonian; 30% to 40% of the flora in the coal swamps; slide is "almost-a-cone" fertile part.
7. Knorria (bark)...diagonal and/or vertical rows of leaf cushions, each row separated by a furrow or ridge; leaf scars near the center of the cushion..."rare" tree, for the time. (ESCONI "Mazon Creek")
8. Stigmaria (bark)... Some bark specimens may be part of the root system of lycopods; generally rootlet scars are round and irregularly arranged in lines that spiral around the specimen...they are clearly not diamond-shaped as are the leaf cushions. (ESCONI "Mazon Creek"); ("A View of the Past," pp. 87, 89).
9. Lepidodendron (bark)... tree-like, growing up to 100 feet tall. Living descendants are small ground pines and club mosses... thrived in swampy, near-shore environments of fresh or brackish water; a great amount of coal may be attributed to Lepidodendron. Stems are covered by the scale-like leaf cushions which are left after the leaves have fallen off. (Most of the petrified wood specimens, too.) (ESCONI "Mazon Creek"); ("A View of the Past," p. 86).
10. Essexella asherae (jelly fish) Soft bodied coelenterates ("hollow intestine") are the dominant animal in the Essex (marine) fauna... eight named taxa are reported... (See Nitecki, pp. 196-200)... The most abundant type of object in the concretions at Pit 11 is informally called the "blob," fossils of "Scyphozoan Coelenterates"... the presence of predatory Strebeus "supports" the designation of "blobs" as "jellyfish." The majority of the "blobs" are "Essexella asherae." Note Accessory Lobe & Skirt.
11. Octomedusa pieckorum (jellyfish)...not-common. (Nitecki p. 229) Pit 11; dome-shaped bell; 8 tentacles, which are generally much longer than the skirt. A depressed central cross may be the mouth impression. Many specimens do not show tentacles.

.. Drevotella proteana (hydroid)... "water animal"; (Nitecki, p. 215)... Coelenterate. Rare, Pit 11, "colonies" reach a height of 95mm; 2 or more main stems of varying thickness, irregular branching. Skeletons are thin layers of calcium carbonate. (Fieldiana Vol. 30, No. 1) Similar to corals...? Not-common.

13. Etacystis communis (coelenterate)... (Nitecki, p. 216) The "H" or "h"... lop-sided "H" with longest leg, the Stolon, apparently flexible. Shorter branch, the peduncle, goes off at 90 degrees. Note the bladder-like sac... flotation device? Not common, Essex fauna. "Strange"... related to jellyfish?

14. Esconites zelus (worm)... (Nitecki, p. 171) Annelids... look for bristles; and especially jaws, the best means of identification. Worms are one of the more prominent Essex invertebrate fauna. (Thompson, p. 194) Esconites is 11.7% of Essex polychaetes. Jaws indicate it is a predator... not sure of habitat... 90mm length.

15. Fossundecima konecniorum (worm)... (Nitecki, pp. 171, 188) 17.3% of FMNH collection of Essex "polychaete" worms... 24mm length, predator, epifaunal habitat... Essex worms are often larger than the associated Essex fish... worm jaws have been found in large coprolites... sharks?... second most abundant Essex worm... jaws have a single basal lobe, no hook, large number (10 or more) of denticles, and are roughly triangular. "Simple-jaw worm"... "fat" body, but hard to determine, since it could have been squashed.

16. Kallidecthes richardsoni (shrimp)... 12% of the Essex fauna, (Fieldiana Vol. 35, No. 3, p. 26)... "not-common" (?); (p. 51)... feathery gills. Look for legs, tail, eyes. (Fieldiana Vol. 12, No. 14, p. 237)... great detail. "Very abundant." Carapace is sub-triangular in outline. Eight legs & tail-fan well-suited for swimming. (Nitecki, p. 164)... big enough to eat!

17. Kellibrooksia macrogaster (shrimp)... details on appendages remain sketchy because of the nature of the fossils. (Notes from FMNH) (Nitecki, p. 164) Near-shore marine (Essex) Crustacean. Not-common. Paddle for one leg... mutant? Strange body, long & thin. (Fieldiana Vol. 26, No. 2, p. 85)

18. Mamayocaris jaskowskii (shrimp)... (Nitecki, p. 164) Near-shore Essex crustacean... a "low-level" carnivore; like lobster/crayfish. (Fieldiana Vol. 30, No. 2, p. 11) Moderate in size; sexes easily distinguished: "females have a large seminal receptacle opening on the eighth sternite of the thorax"... so there! Occurs in moderate numbers in the Essex, none in the Braidwood. Not-common... large claws not yet evolved?

19. Euprooous danae (horseshoe crab) Merostomata... sub-class is eurypterids. (Nitecki, pp. 172, 379, 385); Common. Braidwood fauna, so fresh-to-brackish water. Generally regarded as aquatic, but more frequently occurs with terrestrial elements. Resemblance of genal & ophthalmic spines to twigs & stems seem to put them in a sub-aerial setting, i.e. forest floor, low vegetation, or floating plant debris. (Legs, tail, spines... "fat" body) (Langford Fauna p. 24)

20. Paleolimulus (horseshoe crab)... "Old" Limulus (or modern) horseshoe crab. Note shape of cephalothorax (head-shield) and opisthosoma (tail-shield)... chitinous. Essex, not-common, near-shore marine. (Nitecki, pp. 172, 173, Schram) (Case, pp. 170-172, 17-3) ... Arthropoda, xiphosura.

41. Spider... "Spider-like arachnids," Phylum Arthropoda, per Langford Fauna (p. 41). Head-shields best way to identify (?), p. 67. (Case, pp. 150, 16-5)...see head, thorax, abdomen. Arachnids are not insects, as they do not possess antennae and have only two major body segments, not three. Arachnids include the spiders. Quite rare... 14 orders of spider from Mazon Creek, with 5/6 found only at Mazon Creek; best spiders in all the Pennsylvanian.
22. Euphoberia (millipede)...Arthropod, Terrestrial; (Nitecki, p. 415) Shows millipede with a "Eupro-ops danae." (Case, p. 149) Hard to determine species. Look for "1000" legs, head...12" to 18" or more. (Case, p. 164) Millipedes (diplopods): double pairs of legs on each body segment... 1st. 3 segments behind the head have only single pairs of legs, while remaining have from 10 to 200 legs. Head has antennae, and eyes similar to compound eyes. (Good specimens are rare.) Chitinous exoskeleton, and molts this outer shell. Centipedes (chilopods): similar, but body segments have only single pairs of legs, which are shorter and sturdier than millipedes. Centipede has two eye-clusters, and a pair of antennae. (Langford Fauna, p. 80)
23. Eubletus (insect)... Dragonfly-like (Case, pp. 149, 16-2)... a soft-bodied, predaceous insect. Paired wings, antennae and legs. (Fieldiana Vol. 12, No. 2). (Langford, p. 85)... "No true dragonfly until the Triassic." Mazon Creek best area for Pennsylvanian insects; especially for study of wing evolution.
24. Prochoroptera (insect) Rare...looks like "undetermined insect" of order Protor-thoptera (Langford, p. 98) Head, wings. "Difficult to identify species." ("Coal Age Fossils from Mazon Creek," p.14)...(Fieldiana Vol. 12, No. 2, p.33)... ("Additional Insects," Carpenter/Richardson)
25. Cyclus americanus (arthropod)... "Jointed foot"... note antennae, etc. (Nitecki, p. 196)...not-common, 4.5% of Essex fauna. (Trilobites & horseshoe crabs??). "Sea tick."
26. Kottixerxes (arthropod)... (Fieldiana Vol. 20, No. 6, pp. 86, 1971)... "A strange arthropod"... Speculate it slowly swam thru the upper part of the organically rich "soup" overlying the more consolidated mud, feeding as it progressed.
27. Paraparchites (arthropod)...(looks more like a clam community); a "clam-shrimp," "ostracoda"...chitanous "shell"; small marine bivalved crustaceans (Case, pp. 128, 14-6) Live floating on top of water...slide is "probably" of fresh water type?
28. Glypturochiton concinnus (chiton)...(Fenton, p 154) Very primitive mollusks, and we have modern versions, the snails. Seven or eight plates...mouth has a rough tongue or "radula" for scrubbing algae off rocks as it crawls.
29. Edmondia (clam)...(Langford, p. 11) Pelecypods; two valves hinged together and rather "fat"... eats microscopic organisms which their gills take from the water flowing thru. (Case, p. 56)... "elongate clam," Essex; 16 clams from Mazon Creek, and Edmondia is most common; closed shell means "buried alive."
30. Palaeoxyris (shark egg case)...(Case, pp. 183, 19-3)... "Possible " egg case of a "Chondrichthyan" fish. Case feels it's from the "paleo-chimaeroid" fish, which is present in the Mazon Creek fauna...i.e., "Similihariotta dabasinskasi"... "Langford" thought it was a "plant seed-pod." Consensus: egg case. "High" concentrations in Essex & Braidwood, so it could be either.

31. Fish eggs ... surrounded by gelatin-like material; could even be amphibians' eggs, i.e., like modern frog's eggs? Look for dark nucleus. Un-common in Mazon Creek, but rare in the whole fossil record.
32. Megalichthys (fish scale)...(Case, pp. 280, 25-18)..."Isolated scale from a cross-opterygian fish...probably! One of those where we have the scale but not the fish. Not-common.
33. Rhizodontid (fish scale)...(Case...see above 25-20)..."probably" the same as previous. (Partly restored tooth on 25-19 would give the fish a shark-like tooth.) Look at over-lap of scale.
34. Esconichthys apopyris (immature fish) "the Blade"...Looks like a "flying fish". (Nitecki, p. 510)...lungfish, maybe. Unique to the Essex fauna, and the most common Mazon Creek fish...400 individuals recognized." "Vertebrate," based on presence of a notocord, form of the eye, shape of the gills, and form of the "myomeres." No evidence to assign it to "amphibian"...it's a "puzzle." (external gills, like "wings.") ("Fieldiana Geology" Vol. 33, No. 21, p. 395)
35. Paleoniscoid eating Acanthodian (fish eating a fish)...Rare. (Case, pp. 285, 25-36) (Nitecki, p. 520)...Carnivorous, obviously! Essex fauna...jaws, teeth, scales, fins...dorsal & anal fins.
36. Rhabdoderma (immature fish with yolk sac)...(Nitecki, pp. 509, 523)...A "coelacanth," and probably the only one at Mazon Creek. "Common," but less abundant than acanthodians. Specimens frequently show the large yolk-sac, so are they oviparous? (Case, pp. 281, 25-21) (Ron Pine says, "yes," oviparous.)
37. Mayomyzon dieckoensis (lamprey)...(Nitecki, pp. 503, 522)...Essex fauna with cartilaginous skeleton, and it's the only fossil lamprey. Very similar to living lampreys...small individuals may represent an immature stage. Look for dark line along length (digestive system), dark splotches above that (the noto-cord), and the jaw area. (Case, pp. 275, 25-1)
38. Acanthodes (fish)...(Nitecki, pp. 508, 522, 525) "Abundant"..."Some specimens show ostracods in the abdominal cavity." Essex and Braidwood distribution, and uncertain as to "home." (Shark?...Case, pp. 313, 15-5). Most common fish for Mazon Creek, but un-common to rare for over-all fossils of Mazon Creek. Look for eyes, scales.
39. Amphibamus grandiceps (amphibian)...(Nitecki, pp. 534 & 546). Looks like a frog with a long tail and teeth, but is definitely not a frog, per current consensus. Clearly defined skull, eyes, vertebrae, legs, and rare...Magnificent Specimen.
40. Ophiderpeton amphiuminum (amphibian)...Well-preserved head and neck. (Case, pp. 334, 26-9)...good teeth. A snake-like amphibian, and rare...(or eel-like, from the tail fin). Also a fine specimen. Both amphibians also found in Essex, but mostly from Braidwood.