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MICROFOSSILS FROM THE UPPER SEVERY SHALE (PENNSYLVANIAN) NEAR DUBOIS, NEBRASKA

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Organic rich limestone nodules within the Severy Shale Formation collected directly above the Nodaway Coal Member near DuBois, Nebraska, have yielded a rich microflora and microfauna. The microflora includes Triletes megaspores, seeds, cuticle, and pieces of wood with well preserved structures. The microfaunal skeletal material is either partially or completely replaced by pyrite, marcasite, or, in rare cases, by sphalerite. The following major invertebrate groups and genera within these groups have been identified to date: Bryozoa (one undetermined genus); Brachiopoda (Juresania); Gastropoda (four undetermined genera); Ammonoidea (one undetermined genus); Ostracoda (Amphissites, Coryellites, Hollinella, Macrocypris); Echinoidea (five spine types); and Holothuroidea (Achistrum, Eocaudina, Paleochiridota, Protocaudina, Tetravirga).

Samples of the shale adjacent to the nodules have yielded many of the microfossils listed above but lack seeds, Hollinella, gastropods, and ammonites. Fossils found in the shale but not obtained so far from the nodules include the major groups and genera: Protozoa (Ammodiscus, Endothyra?, Nodosinella?, Psammosphaera, and one undetermined genus); Porifera; Conodontophorida (Hindeodella, Ozarkodina, Streptognathodus); and Pisces (Cooleyella, Holmsella, Moreyella).

Fossil types and numbers vary from nodule to nodule and from place to place over short distances laterally in the surrounding shale as well. Sharp physical changes occur laterally within the shale indicating the possibility of rapid environmental changes in the area.