

LIFE IN A COAL MEASURE MUD ROCK.

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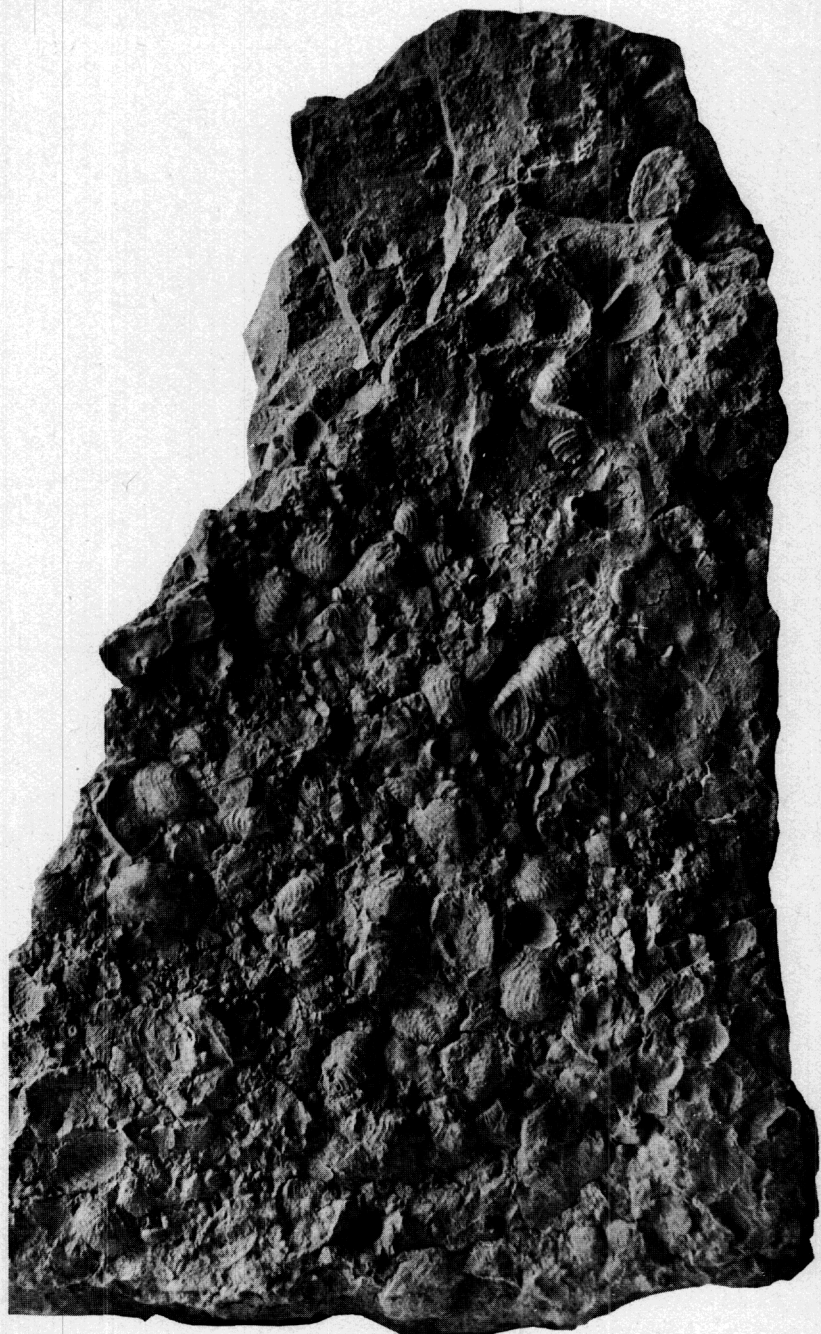
Five miles east of Galesburg in the digging of an air-shaft by the Galesburg Mining Company, there was found a grayish blue shale. In the excavating, seven veins of coal were penetrated the lowest being No. 1 of the Illinois series, now being mined. This shale averages fourteen feet in thickness and lies above the third vein from the top. Near its lower part there is a layer three to four inches in thickness, and lying about forty feet below the surface. This contains nodules and grains of sulphur in addition to the other materials. In color it is more marked than are the portions either above or below it. It has the appearance of a mud, above and in which flourished the animal life that furnished the remains now found in it.

The predominant mollusk is a small bivalve, *astartella*, of which there appear to be two species. The shell is small and marked by a series of concentric ridges. I have not observed this shell in connection with the series of any other vein in Knox county. Of the brachiopods, a *chonetes* is the most common. A *nucula* further illustrates the bivalve group.

Among the gasteropods is a *pleurotomaria*, and there are several species of *bellerophons*. An occasional *nautilus* is detected and in a similar formation two miles west, and believed to be the same the *orthoceras* was abundantly represented. Once in a while a trilobite is found, and larger molluscan forms are not uncommon.

The layer also contains many disks of crinoid stems, and frequently long slender stems that start from a joint. It discloses furthermore the gasteropod, *euomphalus rugosa*, which is found also in the harder rocks of the section.

These three to four inches of mud therefore reveal a marked variety of life, including brachiopods, bivalve mollusks, gasteropods of several species, widely divergent, a *nautilus* group, trilobites, and evidence of a profusion of crinoids.



Picture of coal measure mud rock, containing bivalve shells and other fossils,
from air shaft five miles east of Galesburg, Ill.

I have found in the same formation, outcropping a mile or so east, cup corals in addition to the fossils named.

When this mud, flaky and shaly, has, due to the amount of sulphur that it contains, disintegrated on exposure, the fossils can be picked up from the ground. Forms that are pyritized cannot, however, be recovered in this manner. On fresh specimens, imprints of algae are visible, but not often.

Conditions just before this mud was deposited and just subsequently must have changed considerably, for here we have an enclosed area of life, with no general indication of life before or after.

It reminds one of closing his book suddenly on a multitude of insects and thus preserving them within the volume.