THE RICHMOND FAUNAS OF LITTLE BAY DE NOQUETTE, IN NORTHERN MICHIGAN.

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Pterinea (*Caritodens*) *demissa* (Conrad) is represented by specimens 50 millimeters in height, both in the cherty Richmond and in the upper part of the underlying argillaceous Richmond. At both horizons it is associated with a *Byssonychia* which is similar to the form occurring more or less abundantly in the Waynesville member of the Richmond on Manitoulin Island, in Ontario, but good specimens for figuring are rare.

The *Opisthoptera* occurring in the cherty Richmond bears a general resemblance to *Opisthoptera casei* (Meek and Worthen) but probably is a distinct species. Anteriorly, along the umbonal ridge, the shell is convex and elevated above the more posterior parts of the shell very much as in *Byssonychia*, and this appearance is strengthened here by a tendency of the radiating plications here to remain simple. Moreover, the anterior outline of the shell is concavely curved near the beak and convexly curved below, more as in *Byssonychia* than in typical *Opisthoptera casei*. Along the posterior part of the middle third of the shell, posterior to the umbonal part, the plications are arranged in fasciculate groups, while along the posterior third and also along the anterior margin the plications tend to be narrow, numerous, and subequal. This probably is a new species, but no specimens suitable for figuring have been found so far.

CLIONYCHIA ANGUSTA sp. nov., Fig. 20. This species has been figured so as to suggest a form similar to *Clionychia excavata* Ulrich (Geol. Surv. Ohio, vol. 7, 1893, pl. 51, figs. 4, 5), from the Whitewater member of the Richmond in Indiana. As a matter of fact, however, the specimens at hand do not show any indication of a ligamental area along the upper part of the shell when thus oriented. Compared with the Indiana species, when thus oriented, the shell is narrower and the basal part is more abruptly rounded. It occurs in the cherty Richmond, associated with specimens of *Cymatonota* resembling *Cymatonota typicalis* Ulrich but not sufficiently preserved to make their identity certain. Small modiolopsoid specimens resembling *Colpomya faba* (Emmons) also occur.

Ten feet below the base of the cherty Richmond there is an argillaceous band, 12 to 18 inches in thickness, forming a single layer, usually spalling off in larger masses than the immediately overlying or underlying strata; in this layer fossils, with the exception of certain lamellibranchiata, are few. This is the chief horizon for