

Whitewater members of the typical Richmond, and *Strophomena neglecta*, *Strophomena sulcata*, and *Strophomena vetusta*, which range from the upper third of the Waynesville member into the Liberty and Whitewater members. In Ohio, *Dalmanella jugosa* is most abundant in the Waynesville member. *Platystrophia clarksvillensis* occurs both in the Waynesville and Liberty members. These fossils may represent a late stage of the Waynesville fauna or an early stage of the post-Waynesville portion of the typical Richmond.

The underlying *Pholadomorpha pholadiformis* horizon is regarded as a part of the Richmond section.

The shale section along the shore of the bay, a mile and a half north of the J. B. Stratton store, lithologically resembles the Sheguindah clay shales of Manitoulin island, but not a single fossil has been found which would warrant such a correlation. The nearest relative of *Bollia permarginata* appears to be *Bollia regularis*, from the basal or Arnheim member of the Richmond. Considering the inadequacy of the small fauna collected it is not worth while to discuss the possibility of this Michigan shale corresponding to the Maquoketa shale of more western states. It may not belong to the Richmond at all. For the present, at least, its correlation must remain in doubt.

PLATE IV.

- Fig. 1. *Streptelasma rusticum*.
- Fig. 2. *Streptelasma* cf. *divaricans*.
- Fig. 3. *Lichenocrinus tuberculatus*, magnified.
- Fig. 4. *Dalmanella jugosa subplicata*. A, B, brachial valves; C, pedicel valve.
- Fig. 5. *Hebertella alveata*. A, brachial valve; B, C, pedicel valves.
- Fig. 6. *Rafinesquina breviusculus*. A, B, pedicel valves, on the same slab with 10A; C, D, interiors of brachial valves; b, c, outlines of the corresponding valves.
- Fig. 7. *Leptaena unicostata*. Type. A, pedicel valve; B, interior of brachial valve; a, b, outlines of the corresponding valves. Maquoketa strata, Savannah, Illinois.
- Fig. 8. *Rafinesquina pergibbosa*. A, B, pedicel valve and lateral view of the latter; C, D, interiors of brachial valves.
- Fig. 9. *Rafinesquina alternata*. Interior of brachial valve.
- Fig. 10. *Strophomena parvula*. A, brachial valve.

PLATE V.

- Fig. 10. *Strophomena parvula*. B, C, D, brachial valves; E, interior of pedicel valve; F, interior of brachial valve.
- Fig. 11. *Strophomena neglecta*. Interior of pedicel valve.
- Fig. 12. *Strophomena vetusta*. A, pedicel valve; B, interior of pedicel valve.
- Fig. 13. *Platystrophia clarksvillensis*. Pedicel valve.
- Fig. 14. *Platystrophia acutilirata*. Brachial valve.
- Fig. 15. *Zygospira recurvirostris turgida*. A, pedicel valve; B, brachial valve; both enlarged; C, lateral view, with brachial valve on left side.
- Fig. 16. *Archinacella kagawongensis*; not the type. A, viewed from above; B, lateral view.
- Fig. 17. *Hormotoma gracilis*, var.
- Fig. 18. *Lophospira bicincta*.
- Fig. 19. *Orthoceras* sp. Curvature of septa limiting chamber A shown separately.