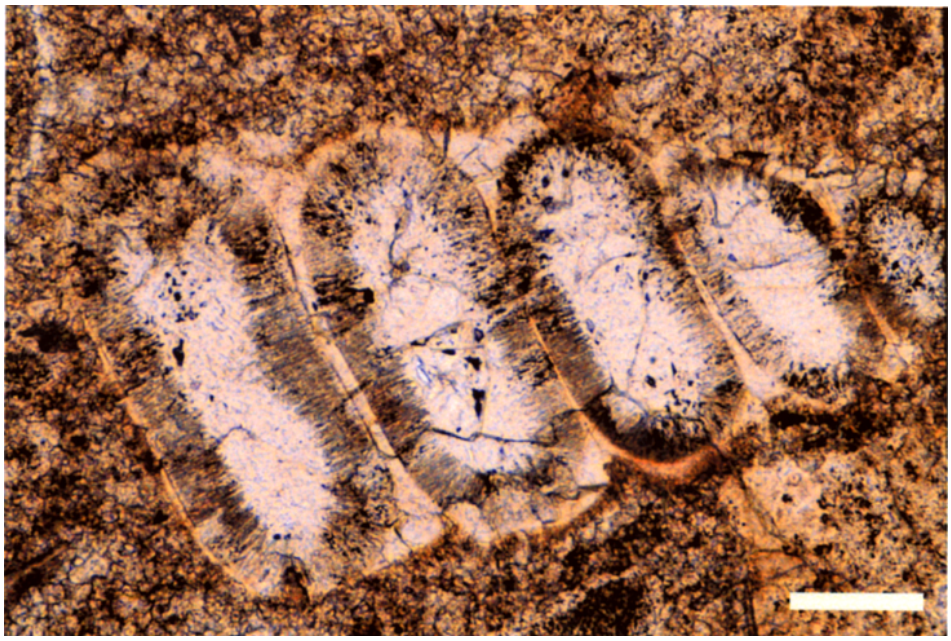

Figure 2.8 Photomicrograph of gastropod mold lined with early fibrous cement that is overprinted by neomorphic calcite. Original micritic matrix is recrystalized to microspar and some pseudospar. (Sample RW-9; transmitted light; scale bar = 400 micrometers)

micrites stating that patchy, clotted, or irregularly shaped masses may have been associated with decaying organic bodies, forming cryptalgal matlike structures that trapped, stabilized, and supported lime mud. The patchy micritic growth framework with a clotted appearance in the phylloid algal facies forms micrite masses that connect skeletal and phylloid fragments and fill interparticle pore spaces. Therefore, it is reasonable to assume that much of the micrite framework found in the phylloid algal facies is the result of microbial action that facilitated the precipitation and binding of carbonate mud and other carbonate grains.

The inferred growth habits outlined above are often cited in interpretations of depositional environments. The binding and encrusting nature of the algae is cited as evidence that the algae were responsible for the construction of algal mounds or banks. These banks resulted from the growth and proliferation of phylloid algae on and around topographic prominences. Harbaugh (1964) stated that, initially, algal mounds may have been localized by waves and currents that caused both argillaceous and calcareous material to be heaped into submerged bars. These bars then became nucleation sites for growth of phylloid algae. Heckel and Cocke (1969) supported this idea, saying that local sedimentary highs on an irregular sea floor provided favorable locations for growth of phylloid algae because sunlight was favorable for algal growth. Once established, the growth and proliferation of the algal community built up local phylloid algal mounds or banks.

Ball *et al.* (1977) offered an alternate interpretation and argued strongly against the concept of phylloid algae as mound or bank builders. They stated that phylloid algae were not builders of depositional topography but rather were only a source of building material. They went on to say that there is no evidence for the ideas that phylloid algae were commonly significant sediment bafflers or that they were ever important bank or mound builders in Pennsylvanian and Early Permian seas. In fact, the proliferation of phylloid algae