SOME CAMBRIAN PROBLEMATICA OF THE OZARK UPLIFT

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Fossils of the Cambrian have been found to represent taxa which are often absent from younger strata or from modern invertebrate faunas. Presented are a variety of problematic late Cambrian and earlymost Ordovician fossils which have been collected from cherts of the Ozark uplift of Missouri and which probably represent problematic or unknown taxa. These fossils are associated with molluscan faunas and some may be members of that phylum. These puzzling fossils can occur locally in small areas throughout the large Cambrio-Ordovician outcrop area of the Ozark Uplift of Missouri and Arkansas.

1. Golf tees. Sclerite-like cones are found associated with trilobites in chert packstone boulders of the uppermost Cambrian Eminence Formation. These were at first thought to be the occipital spines of saukid trilobites with which they are associated but they are morphologically different from trilobite occipital spines. "Golf tees" might represent spicules of some large mollusk, possibly those of a large aplacophoran or other animal mollusk such as that responsible for peculiar Cambrian trackways such as Climactichnites. .

2. Net-like plates suggestive of large specimens of the Lower Cambrian fossil Microdictyon. These fossils are associated with trilobite fragments and small mollusks in cherts of the lower part of the Eminence Formation. If the form is Microdictyon this Upper Cambrian occurrence would extend the stratigraphic range of this fossil, which may be marginal sclerites of an onychophoran-like animal.

3. "Herseys kisses." Poorly preserved internal molds of mollusks? which exhibit a peculiar allometric growth form are found in cherts of the Lower Ordovician Jefferson City Formation. "Herseys kisses" are geometrically similar to rapidly expanding shells of the specialized gastropod genus Platyceras found abundantly in cherts of Mississippian outliers of the Ozarks, Platyceras, however, is unknown from the Lower Ordovician and "Herseys kisses" are not specimens of Platyceras.

4. "Plates". Asymmetrical plated mollusk exhibiting what appear to be large muscle scars. These forms are associated with valves of the plated mollusks Hemithecella, Conodia and Robustum. This rare asymmetrical valve? may represent part of an aberrant plated mollusk, possible an anterior plate of Conodia as it is associated with that form.

5. Matthevia variabilus Walcott is a distinctive and peculiar plated mollusk in which two large "pockets" occur in each valve. In ozark occurrences Matthevia is associated with the valves of other plated mollusks in cherts of the uppermost Cambrian. Matthevia has been reconstructed as a bi-plated mollusk by Yochelson 1977 and by Runnegar et. al. 1979 as a primitive chiton. Species of the plated mollusk Hemithecella approach Matthevia in morphology but unlike Matthevia, have only one "pocket" or posterior tunnel. Some "paleoloricate polyplacophorans" also approach Matthevia in morphology and exhibit monoplacophoran-type, multiple musculature. Matthevia appears to be related to but still distinct from both hemithecellids and "paleoloricate" polyplacophorans, two groups of problematic plated mollusks which are particularly well represented in the Ozark region of Missouri and Arkansas.