DIFFERENTIATION OF SPECIES FOR THE PENNSYLVANIAN GASTROPOD SUBGENUS PLOCEZYGA (PLOCEZYGA) BY USE OF WHORL MEASUREMENTS.

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The Pennsylvanian gastropod species for the subgenus Plocezyga (Plocezyga) have been described from the Appalachian Basin, Illinois Basin as well as the Midcontinent basins of the United States. This subgenus is a part of the family Pseudozygopleuridae, which has a very diagnostic protoconch. Within the past several years numerous species of this family have been described.

The genus Plocezyga is differentiated from the other pseudozygopleurid gastropods by having a high- to moderately-spired shell with transverse and revolving ornament. The subgenera for this genus are differentiated from each other based on the type of ornament on the whorl face. The subgenus Plocezyga (Gamizyga) has collabral threads more prominent than finer revolving threads; Plocezyga (Hyphantozyga) has collabral and revolving threads which are subequal forming a meshwork on the whorl face; and Plocezyga (Plocezyga) has collabral cords which are strong, prosocline, orthocline, or opisthocline, and the revolving threads are fine.

The subgenus Plocezyga (Plocezyga) has been used for biostratigraphic correlation between the Pennsylvanian basins of the United States and has been studied extensively. The need for a more precise method to differentiate the various species within this subgenus was needed to assist in the recognition of the species. It was determined that simple measurements of each whorl can be used to differentiate the various species within this subgenus. Whorl measurements are easily standardized because the pseudozygopleurid protoconch has a distinctive protoconch - teleoconch boundary which can be used as a datum for measurements. Species within this subgenus are differentiated by the height to width ratio, a measure of the whorl profile, and the slope of the species whorl ratio line.