PARALBULA IN NORTH AMERICA:
REVISITING AN ENIGMATIC CAMPANIAN – LATE PALEOCENE TELEOST WITH HOPE FOR NEW INSIGHTS

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ABSTRACT
Paralbula is a common generic unit of the Phylloleoniforma, a family known from Late Cretaceous and Paleogene deposits in Europe and North America. Within North America, only two species of Paralbula are recognized: A. grossi and P. marylandica. However, it is also found in Europe and Asia.

Phylogeny & Evolution
All extant teleosts are classified in the Infraclass Teleostei. Paralbula belongs to the Suborder Albuloidei, Family Phyllodontidae, Subfamily Paralbulinae. The family includes a single extant genus, Paralbula, which is characterized by a solid, unornamented tooth enamel and a convex occlusal surface. It is believed to be an adaptation for crushing invertebrate shells or exoskeletons (Estes, 1969a; Estes and Brinkman, 1997).

Field Methods in Paleoecology
Robb, 1989).

Paralbula casei Estes, 1969
Paralbula casei is a small, elongate, limnico-dwelling species known from Late Paleocene deposits in Maryland (Blake, 1940; Estes, 1969a). It is characterized by a solid, unornamented tooth enamel and a convex occlusal surface. It is believed to be an adaptation for crushing invertebrate shells or exoskeletons (Estes, 1969a; Estes and Brinkman, 1997).

Fig. 5. Photographs of Paralbula species from the Late Paleocene A. grossi, scale in mm. B. marylandica, scale in mm. C. casei, scale in mm.

Paralbula marylandica Blake, 1940
Paralbula marylandica is a large, limnico-dwelling species known from Late Paleocene deposits in Maryland (Blake, 1940; Estes, 1969a). It is characterized by a solid, unornamented tooth enamel and a convex occlusal surface. It is believed to be an adaptation for crushing invertebrate shells or exoskeletons (Estes, 1969a; Estes and Brinkman, 1997).

Fig. 6. Photographs of Paralbula species from the Late Paleocene A. grossi, scale in mm. B. marylandica, scale in mm. C. casei, scale in mm.

NEW INSIGHTS
The discovery of a new species of Paralbula in the Late Paleocene Aquia Formation of Maryland provides new insights into the evolution of this enigmatic family. Elements recovered include the prootic and basioccipital elements, both left and right dentaries, left quadrate, atlas, and the nasal capsule. These elements provide new information about the evolutionary relationships of Paralbula and the Phyllodontidae as a whole.

Fig. 7. Photographs of Paralbula species from the Late Paleocene A. grossi, scale in mm. B. marylandica, scale in mm. C. casei, scale in mm.

FUTURE RESEARCH
The discovery of a new species of Paralbula provides new insights into the evolution of the Phyllodontidae. Further research is needed to determine the true phylogenetic relationships among Paralbula species and to better understand the evolutionary history of this enigmatic family.

REFERENCES


