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PROETID TRILOBITE FROM THE BOONE FORMATION IN ARKANSAS

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A chert fragment from the Boone Formation, Rago, Benton County, Arkansas contains four disassociated parts of a trilobite including the glabella, pygidium, and both free cheeks. The nodule was collected by Dr. Burnal Ray Knox of Southeast Missouri State College, Cape Girardeau, Missouri in the NW 1/4, Section 5 T. 20 N., R. 30 W. when he was a graduate student at the University of Arkansas. He kindly presented the specimen to the Department of Geology. The author wishes to extend appreciation to Dr. James H. Quinn, University of Arkansas for his cooperation in the preparation of the description of the trilobite which appears to belong to a taxon new to science. The trilobite has been described and the decription will be published in the Journal of Paleontology or other suitable journal. The drawing (Plate 1, Figure 2) was made by Robert Handford and the photographs (Plate 1, Figures 1 & 2) by James Edson. Both are graduate students in Geology at the University of Arkansas.

Superfamily	PROETACEA	Salter, 1864
Family	Proetidae	Salter, 1864
Subfamily	(Uncertain)	

The trilobite has an elongate and elliptical exoskeleton and an opisthoparian suture. The length (sagittal) of the cephalon is about one half the width (transverse). The broad flat cephalic portion contrasts with the smaller pygidium.

The free cheeks have a flattened exterior border which is convex at the extremity. There are more than six striations that extend from the anterior part of the cephalon to the end of the genal spine. Also the genal spine has moderate length. A prominent arcuate ridge rises steeply above the flattened border. The small to medium-sized eyes which are close to the glabella project above the raised area. The palpebral lobes extend laterally above the eyes.

The glabella is broad, parallel-sided, and rounded anteriorly and in cross-section exhibits moderate relief. The lateral preoccipital lobes are large and prominent features. There are numerous glabellar furrows present but the number is not equal on both sides. The glabella appears to have been crushed slightly; thus some or none of the glabellar furrows may be original features.

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The pygidium has a semi-circular and moderately convex shape with the length about one half the width. There is a well defined posterior border with more than ten striations. The axis is strongly raised and extends almost to the border. The axial and pleural ribs are also prominent features.

Remarks: There are reasons for supposing the disasssociated parts represent a single trilobite. First, they are similar in size. Second, presence of the pair of free cheeks suggsts a single individual. Third, the parts can be assembled into an acceptable cephalon and reconstruction. A question does arise however; why are the thoracic segments not present? Also a rounded depression near the glabella is unidentified. (Plate 1, Figure 1)

Repository: The specimen described here L-229 is in the University of Arkansas Collection and recorded in the Geology Department Catalogue of Invertebrate Fossils at the University of Arkansas.

REFERENCE

Harrington, H. J., and others, 1959, Arthropoda 1, pt. O of Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kansas Press, 560 p.

PLATE 1

Figure 1

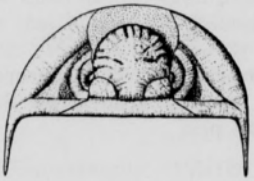

Figure 2

EXPLANATION OF PLATE 1

Figure 1. Chert fragment with four disassociated parts.

Free Cheeks

Right — Sagittal, 43 mm; transverse, 23 mm.
Left — Sagittal, 43 mm; transverse, 20 mm.

Glabella
Sagittal, 22 mm; transverse, 24 mm.

Pygidium
Sagittal, 21 mm; transverse, 38 mm.

Figure 2. Reconstruction