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## Discovery of the holotype of *Palaeopetrochirus enigmus* Bishop, 1991, presumed to be lost

Rodney M. Feldmann<sup>1)</sup> and Carrie E. Schweitzer<sup>2)</sup>

1) Department of Earth Sciences, Kent State University, Kent, Ohio 44242, USA

< rfeldmann@kent.edu >

2) Department of Earth Sciences, Kent State University at Stark, 6000 Frank Ave. NW, North Canton, Ohio 44720, USA

< cschweit@kent.edu >

### Abstract

The holotype and sole specimen of *Palaeopetrochirus enigmus* Bishop, 1991, thought to be lost, has been rediscovered, its description emended, and re-illustrated.

*Key words:* Decapoda, Anomura, Diogenidae

### 1. Introduction

In the process of preparing the revision of the Decapoda volume of the Treatise on Invertebrate Paleontology (Glaessner, 1969), every effort has been made to document the genera included by photographic illustrations. Specimens that could not be located following an exhaustive search were illustrated by original drawings. The type and sole specimen of *Palaeopetrochirus enigmus* Bishop, 1991, was thought to be lost as it could not be located in the indicated depository, Mississippi Geological Survey. Fortuitously, the specimen was recently found and returned to the Mississippi Geological Survey by the Florida Museum of Natural History.

### 2. Systematic Paleontology

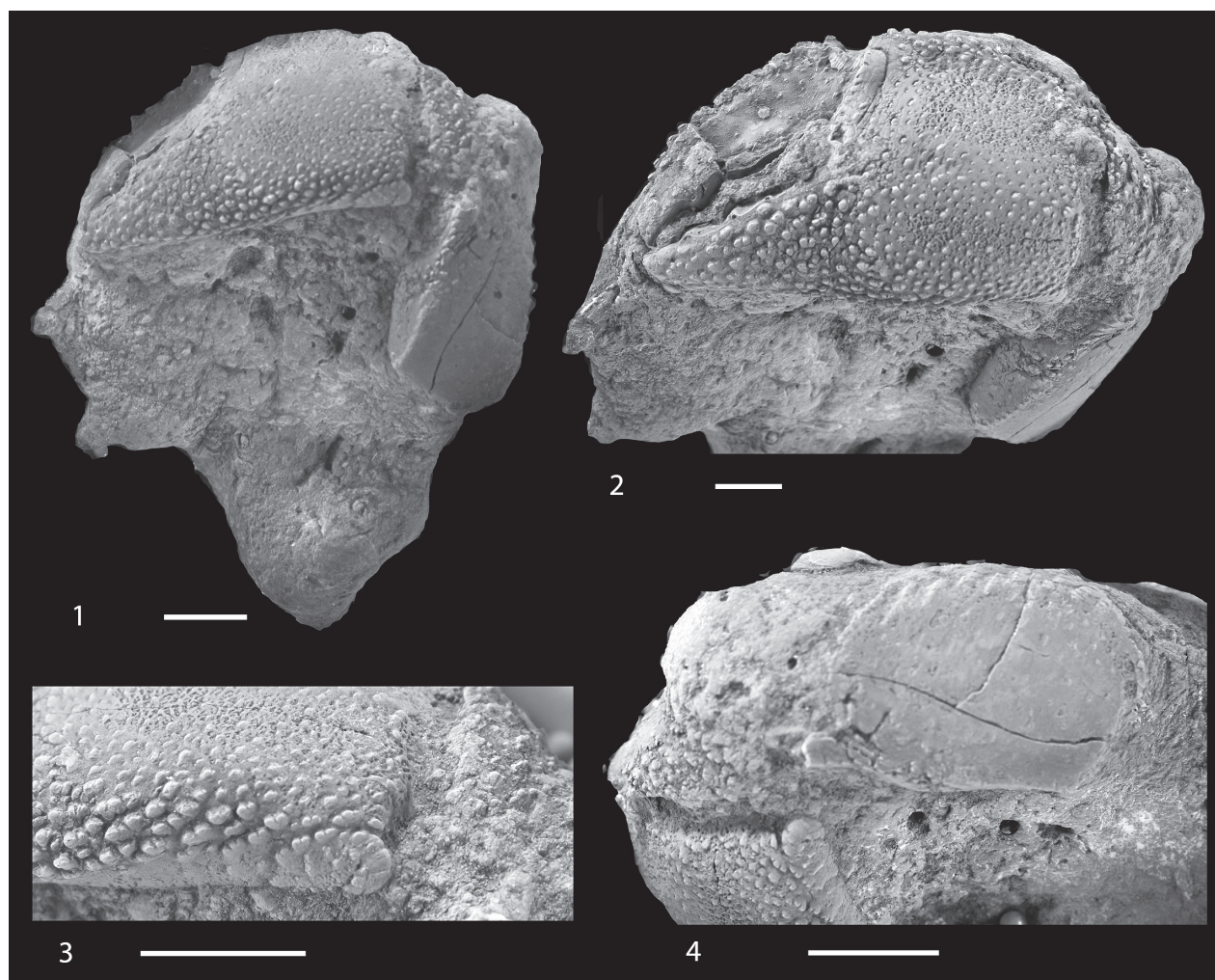
Superfamily Paguroidea Latreille, 1802

Family Diogenidae Ortmann, 1892

Genus *Palaeopetrochirus* Bishop, 1991

*Type species:* *Palaeopetrochirus enigmus* Bishop, 1991, by original designation.

*Remarks:* In the process of assembling diagnoses for the Superfamily Paguroidea, it was discovered that the type and sole specimen of *Palaeopetrochirus enigmus* appeared to be missing. The specimen number of the type was not listed in table 1 (Bishop, 1991, p. 13), but it was indicated as 1700 MGS in the caption of figure 5 (Bishop, 1991, p. 15). Although not listed therein, the acronym MGS was interpreted to denote the Mississippi Geological Survey. To attempt to locate the specimen, contact was made with the Mississippi Geological Survey and the Mississippi Museum of Natural History, and it was determined that the specimen was not in those collections. To further extend the search, the collections at the two institutions where Bishop previously worked and deposited decapod specimens, Georgia Southern University and South Dakota School of Mines and Technology, were contacted with no success. However, in March 2023, the unlabeled specimen was discovered by Roger W. Portell (Florida Museum of



**Fig. 1.** *Palaeopetrochirus enigmus* Bishop, 1991. 1, Concretionary structure, MMNH 1735 (MGS 1700), bearing elements of the left cheliped and two projections on the right side reflecting the tips of the fingers of the right cheliped. 2, Propodus and dactylus of left cheliped. 3, Enlargement of the lower proximal corner of the propodus showing scabrous ornamentation. 4, Inner surface of manus showing inclined ridges along upper surface. Scale bars = 1 cm.

Natural History) where Bishop's southeastern United States collections had been transferred. Portell notified the Mississippi Geological Survey of his find and returned it to its rightful repository, where it bears the catalog number MSG 1700.

***Palaeopetrochirus enigmus* Bishop, 1991**

(Figs. 1.1–1.4)

*Emendation to description:* Outer surface of left cheliped (Figs. 1.1, 1.2) with distally-directed, short spines along upper margin. Surface of manus with setal pores in region proximal to articulation with dactylus grading into finely nodose region along length

of manus. Nodes become more coarse on fixed finger and along lower margin of manus and become more coarsely scabrous on lower margin (Fig. 1.3). Carpus is coarsely nodose on the distal end and obscured by concretionary matrix proximally. Merus bears about 6 distally inclined ridges along the upper margin of the inner surface and a single spine projecting distally on the lower margin (Fig. 1.4).

*Measurements:* Merus length 33.4 mm; height 18.9 mm. Propodus length 46.2 mm; height 28.4; manus 28.3 mm. Dactylus length >29.5 mm.

*Remarks:* Two projections from the margin of the concretion are the tips of the finger of the right

cheliped. Based upon an inflated region on the surface of the concretion proximal to the fingers, the right cheliped may be about 27 mm long. Attempts to excavate the matrix and reveal the right claw were not successful. The interface between exposed cuticle and the matrix was strongly cemented resulting in potential of damaging the specimen. The right chela appears to be smaller than the left, so placement in *Diogenidae* is maintained.

### 3. Acknowledgements

Search for the specimen was facilitated by George Phillips, Mississippi Museum of Natural History, Jackson, David Dockery, III, Mississippi Department of Environmental Quality, Jackson, and Roger Portell, Florida Museum of Natural History, Gainesville. Phillips also facilitated the loan of the specimen to us. Our thanks to these individuals.

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