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A NEW PALEOCENE CRAB FROM TEXAS

EDWARD DAVIDSON
Cornell University, Ithaca, New York

INTRODUCTION

A collection of fossil decapod crustaceans made by the late Mrs. J. H. Renfro of Fort Worth, Texas, includes a crab which represents a new genus. This new genus, *Kierionopsis* (Crustacea: Brachyura; Dromiidae), is known from 10 specimens collected at a locality in the Paleocene Wills Point Formation, 7 miles northwest of Streetman, Freestone Co., Texas.

The author thanks Mr. H. B. Roberts of the U. S. National Museum for his comments and Mr. John Carter of the University of Cincinnati for making the photographs.

SYSTEMATIC DISCUSSION

Family DROMIIDAE

Genus KIERIONOPSIS, n. gen.

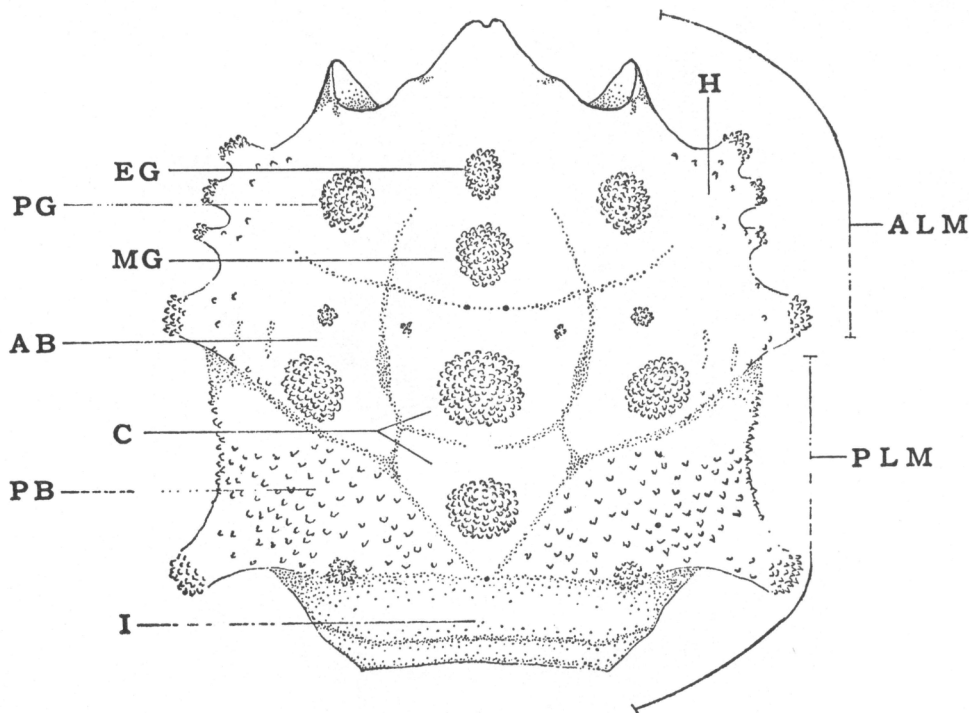
(*Kier*, a patronym; *ion*, Gr., a diminutive; *opsis*, Gr., appearance of)

Diagnosis.—Carapace subrectangular, convex transversely and longitudinally, slightly longer than wide (text-fig. 1). Lateral margin distinct,

the anterior third spinose, and with a stout elongate spine at the posterior extremity. Dorsal surface with twelve elevated granular bosses. Epigastric, mesogastric, cardiac bosses arranged in a medial line. Posterobranchial region granular, hepatic region small and depressed, intestinal region wide and depressed. Dorsal grooves shallow and indistinct. Abdominal segments wider than long with fourth segment the widest.

Type species.—*Kierionopsis nodosa*, n. sp.

Discussion.—Of the genera of the Dromiidae and allied families, *Dromilites* is the genus most closely allied to *Kierionopsis*. They are similar in the granular bosses on the carapace, shape of abdominal segments, size and shape of the cheliped. *Kierionopsis* is distinguished by a more elongate carapace and a medial row of four bosses, the elongate posterolateral spine and the large wide intestinal region. It is more like *Dromilites americana* Rathbun than European species such as *D. bucklandi* Edwards. The shape and number of dorsal bosses of *D. americana* are su-



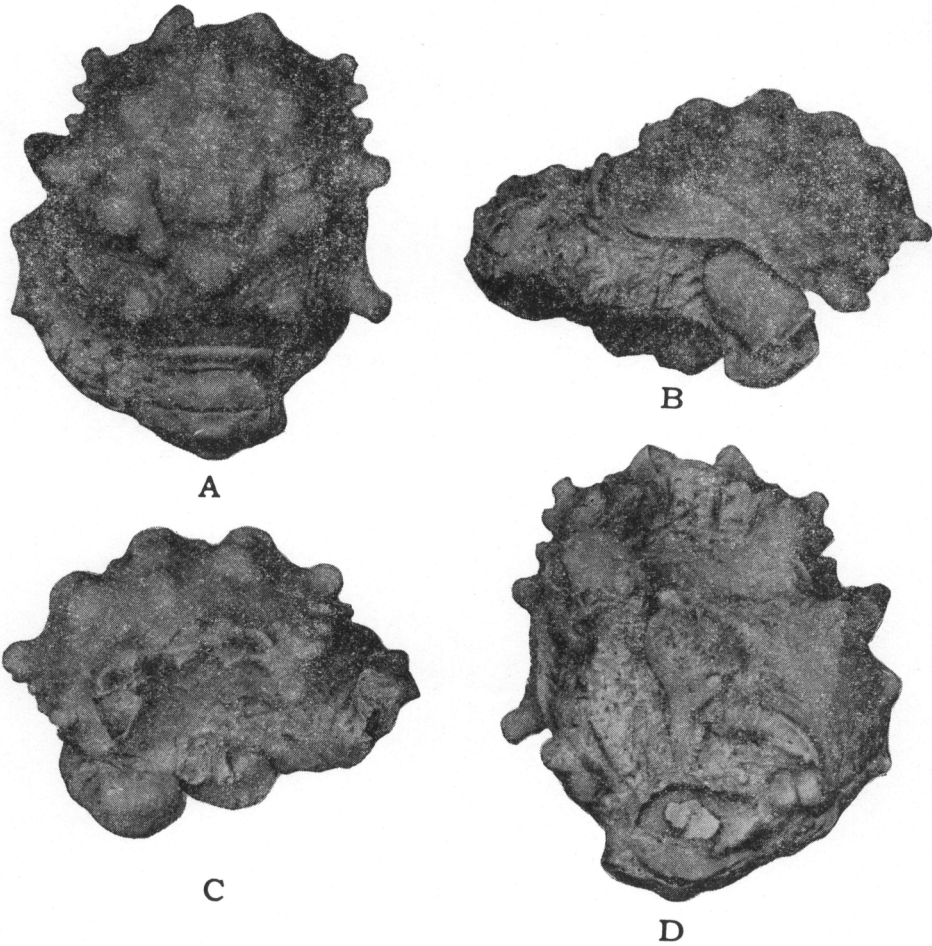
TEXT-FIG. 1.—Drawing of a reconstructed carapace of *Kierionopsis nodosa*, n. sp., EG—epigastric, PG—proto-gastric, MG—mesogastric, AB—anterobranchial, C—cardiac, PB—posterobranchial, I—intestinal, H—hepatic, ALM—anterolateral margin, PLM—posterolateral margin, $\times 1.7$

perficially similar to *Kierionopsis*; but the medial line of four bosses and the elongate posterolateral spine of *Kierionopsis* indicate its generic distinction from *Dromilites*.

KIERIONOPSIS NODOSA, n. sp.
Text-figs. 1, 2

Description.—Carapace slightly longer than wide; margins well defined; frontal margin convex when viewed from above, spinose, transversely convex. Rostrum triangular, smooth, bilobed, with shallow medial sinus (text-fig. 1). Orbits small, round, directed slightly upward and outward. Frontal width (paratype, USNM 649161) 1 cm, orbital width (paratype, USNM 646161) 3 mm. Supraorbital tooth granular, low, blunt. Suborbital spine extended outward beyond margin of carapace. Anterolateral margin with four blunt, granular spines excluding the suborbital spine which is on the frontal margin. A shallow sinus between second and third anterolateral spines extends inward on the carapace. Posterolateral margin granular, with a stout, elongate spine at the posterior extremity. A sinus behind the fourth anterolateral spine forms a groove beneath the anterolateral margin. This groove ends beneath the first anterolateral spine and behind a granular subhepatic knob (text-

fig. 2B). Posterior margin smooth with convex lip overlapping first abdominal segment. Dorsal surface smooth except granular bosses and posterobranchial region. Epigastric and mesogastric bosses medial, proto-gastric bosses lateral and slightly anterior to mesogastric boss. Mesogastric and proto-gastric bosses larger than the small oval epigastric boss. Cervical groove shallow and indistinct laterally. Hepatic region small, smooth, depressed. Cardiac region with two bosses bordered laterally by shallow grooves. Anterocardiac boss forms highest point of carapace and is divided from posterocardiac boss by shallow groove. Anterolateral cardiac region bears two small granular knobs. Branchial region divided transversely by a groove extending from behind the fourth anterolateral spine to behind the posterocardiac boss. Most anterior of two anterobranchial bosses much smaller than the other. Posterobranchial region granular with one central, posterior boss. A deep pit marks point where cardiac, branchial, and intestinal regions meet. Intestinal region wide, smooth, and much depressed. Abdomen smooth with low medial ridge (text-fig. 2A). Fourth segment wider than those posterior and anterior. Merus of cheliped short, smooth, wide (text-fig. 2D). Carpus smooth, wide and granular on either side of a



TEXT-FIG. 2—*Kierionopsis nodosa* n. sp., holotype, $\times 2$, USNM 649150; A, dorsal view of carapace; B, side view of carapace showing lateral margin; C, anterior view of carapace showing anterior margin; D, ventral view showing the cheliped.

shallow dorsal groove (length/width ratio 7:5). Manus swollen and thick with granular line behind fixed finger (length/width ratio 7:5). Fixed finger straight, inclined upward, wide, smooth, with 7 or 8 blunt teeth. Fixed finger 6/7 as long as manus. Movable finger smooth, curved slightly inward, with deep groove along center and bearing two small blunt teeth near the tip. All measurements of the cheliped were taken from the holotype (USNM 649150).

All specimens except the holotype are completely or nearly completely decorticated, but retain essentially all characters of the holotype with the exception of small ornamentation. The

major difference is that the decorticated specimens show a reduction in size and height of the spines and bosses.

Dimensions.—Holotype (measured from posterior margin to base of rostrum), 2.36 cm. long, 2.3 cm. wide; paratypes, all specimens are incomplete but indicate the same length to width ratio as the holotype.

Material.—Holotype, U. S. National Museum 649150; paratypes, USNM 649161, 649162.

Occurrence.—Paleocene, Midway Group, Wills Point Formation, 7 miles northwest of Streetman, Freestone Co., Texas, on Highway 75.

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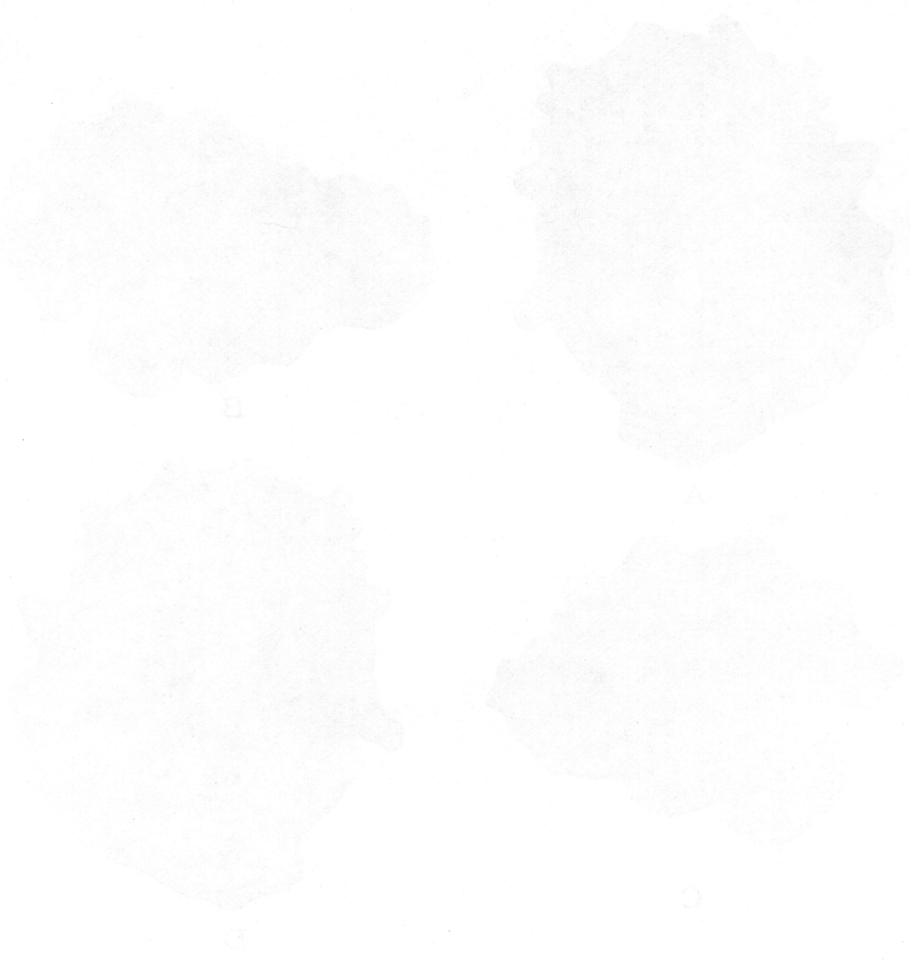


Fig. 1. Cross-sections of the stem of *Alphalagonol* (A) and *Koles* (B, C, D) showing the arrangement of vascular bundles and internal structures.

The stem of *Alphalagonol* (A) is characterized by a large, circular cross-section with a distinct outer cortex and a central pith. The vascular bundles are arranged in a ring, and the stem shows a clear secondary growth. The stem of *Koles* (B, C, D) shows a different arrangement of vascular bundles and internal structures, indicating a different growth pattern and internal organization.

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