

A NEW PALEOCENE CATOMETOPE CRAB FROM  
TEXAS, *TEHUACANA TEHUACANA*

A NEW CRETACEOUS CRAB, *GRAPTOCARCINUS*  
*MUIRI*, FROM MEXICO

BY

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Reprinted from the  
JOURNAL OF PALEONTOLOGY  
Vol. 18, No. 6, November, 1944

## A NEW PALEOCENE CATOMETOPE CRAB FROM TEXAS, TEHUACANA TEHUACANA

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**T**HE SQUARE-FRONTED or catometope crabs are a loosely combined group which usually have a carapace of squarish outline. However, the group is ill defined as a whole and not sharply separated from the cyclometope or round-fronted crabs. The family Goneplacidae in particular is a link between the two groups and perhaps it will be found to include the ancestors of the catometope crabs. In this respect, the new genus described below is of interest, because it is a very ancient goneplacid of Paleocene age. At the present, however, the knowledge of fossil crabs is so limited that it is premature to trace their evolution in detail. Before this can be done, many more fossils must be collected, prepared, and described in minute detail.

Tribe BRACHYURA Latreille

Subtribe BRACHYGNATHA Borradaile

Family GONEPLACIDAE Dana

Genus TEHUACANA H. B. Stenzel, n.g.

Genotype. *Tehuacana tehuacana* Stenzel, n. sp., from the Midway group (Paleocene) of Texas.

*Generic description.*—Carapace squarish in outline, highly arched in transverse as well as in longitudinal direction; width of front medium, one-third the width of carapace; antero-lateral margin short, convex, with 4 blunt teeth; posterolateral margins nearly straight, convergent; posterior margin emarginate for last pair of ambulatory legs. Orbits medium-sized, far apart, well-enclosed; fronto-orbital width two-thirds carapace width. Orbital hiatus narrow, closed by the antenna. Areolation of carapace well developed, particularly strong on posterior part. Antennules fold beneath front in transverse direction; interantennular septum thin. Buccal cavern square, with narrow raised rim in front. Sternum small, fifth somite almost entirely hidden by abdomen in male.

*Remarks.*—This new genus seems closely related to *Pilumnoplax* Stimpson.<sup>1</sup> However,

<sup>1</sup> Stimpson, W., 1858, *Prodromus descriptionis*

*Tehuacana* has a more arched carapace, very much deeper grooves, and better separated regions on the carapace. The arrangement of the regions is somewhat different in the two genera; the anterior regions occupy more space on the carapace of *Pilumnoplax* than of *Tehuacana*; as a consequence the mesogastric and mesobranchial regions of *Pilumnoplax* are nearer the posterior than the anterior end of the carapace, whereas in *Tehuacana* they are nearer the anterior end. The width of the front between the orbits is larger in *Pilumnoplax* than in *Tehuacana*. The anterolateral dents in *Pilumnoplax* are much sharper and more protruding than in *Tehuacana*.

The name proposed for this new genus is the name of the Indians who once inhabited the region near the type locality.

TEHUACANA TEHUACANA

Stenzel, n. sp.

Plate 93, figures 6-9; text  
figures 1-3

*Description.*—Carapace small, squarish in outline, highly arched. Front broken back to epigastric region in holotype; width one-third the carapace width. Orbits wider than high, in ratio of 3 to 2, slightly contracted in middle, well enclosed; upper orbital margin with 2 shallow, rounded emarginations, one in the middle, other at outer end adjoining outer orbital dent. The latter is stout and blunt. Lower orbital margin with narrow orbital hiatus occupied by antenna; remainder of lower orbital margin without fissures, leads in a smooth concave curve from projecting point at orbital hiatus to outer orbital dent. Anterolateral margin short, convex, bluntly angulated in

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animalium everttebratorum, quae in Expeditione ad Oceanum Pacificum Septentrionalem, A republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit, Pars V, Crustacea ocyphodoidea: Acad. Nat. Sci. Philadelphia Proc., vol. 10, p. 93. Genotype: *P. sulcatifrons* Stimpson.

cross section, with 4 blunt dents, first is outer orbital, last is branchial. Width of carapace greatest at third and fourth anterolateral dents. Posterolateral margin slightly longer than anterolateral, very slightly convex, bluntly and indistinctly

Areolations well developed, particularly on posterior slope. Proto gastric areolation large, flat-topped, roughly pentagonal in outline connecting with slightly higher epigastric swellings. Meso- and metagastric areolations united into pentagonal outline;

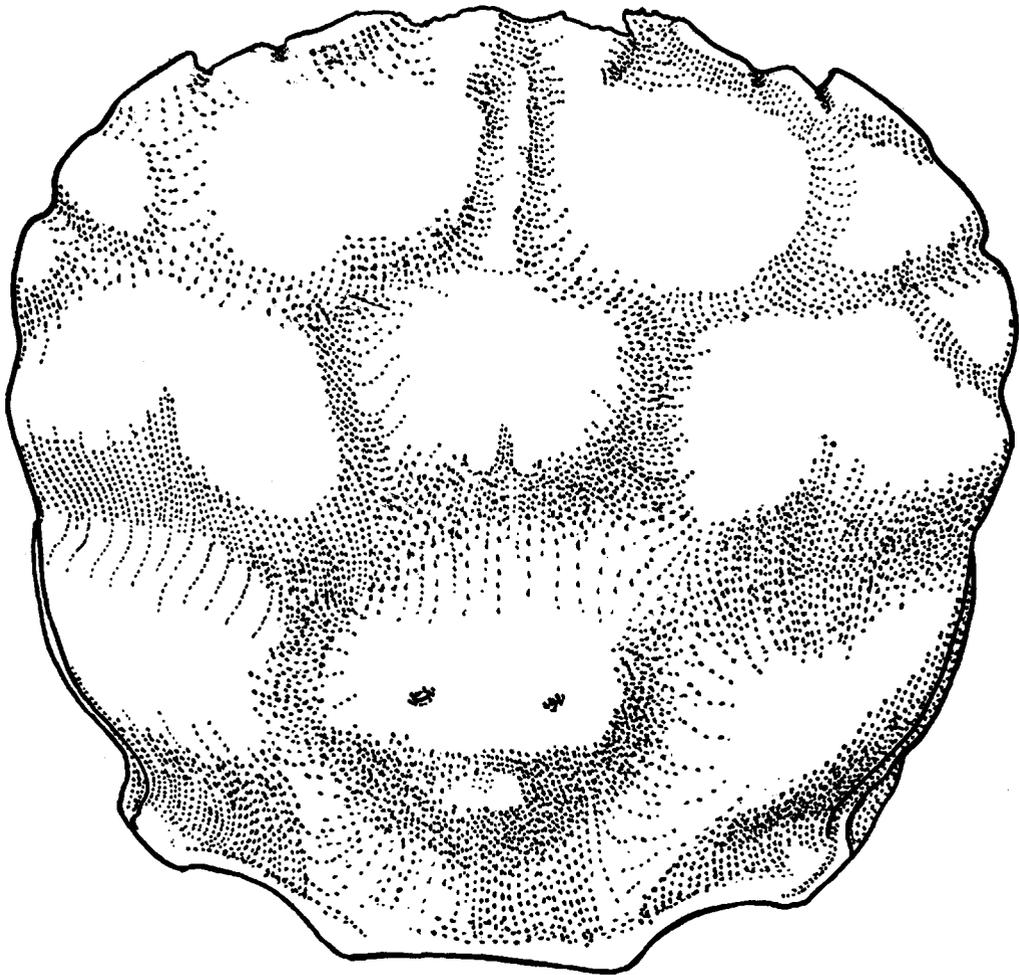


FIG. 1. Dorsal view of carapace, *Tehuacana tehuacana* Stenzel, monotype,  $\times 9$ .

angulated in cross section, less defined than anterolateral margin, convergent posteriorly. Posterior carapace margin wide, about two-thirds width of carapace, edge slightly thickened, consisting of 3 parts, pair of emarginations—presumably occupied by last pair of legs—and wider, slightly concave median part.

median anterior extension long, very narrow; posterior slope steepened, granulated. Hepatic areolation small, flat-topped, extending into second anterolateral dent, separated by very obscure, shallow groove from orbital region and dent. Cardiac areolation wider than long, pentagonal in outline, high, round-topped with steep slopes;

two tubercles form transverse row on top; a steeply sloping, rounded median ridge extends posteriorly from cardiac areolation, has slight hump, disappears before reaching margin. Metabranial areolation small,

swelling transversely elongate, extending to fourth anterolateral tooth. Third anterolateral tooth has small low, flat-topped areolation adjoining it; latter separated from hepatic and epibrachial swellings by

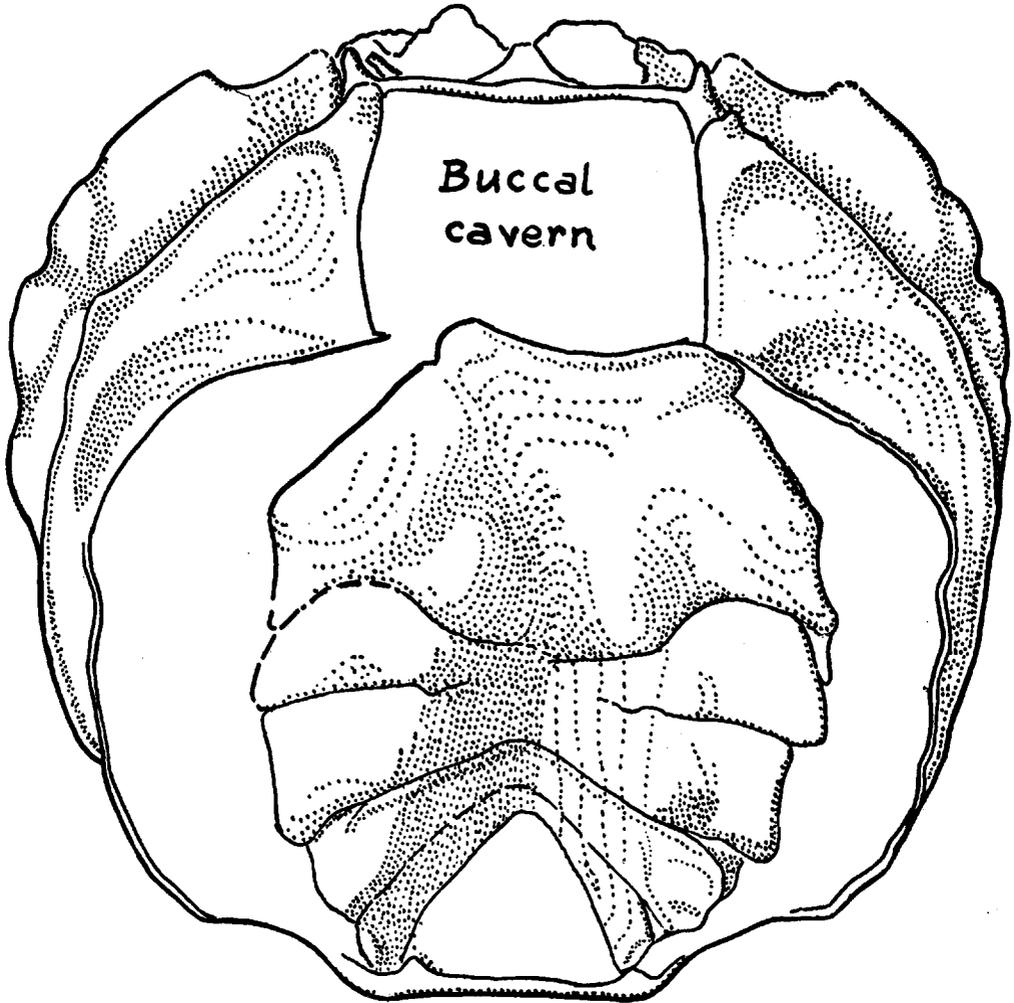


FIG. 2. Ventral view of carapace, *Tehuacana tehuacana* Stenzel, monotype,  $\times 9$ .

wider than long, well separated by broad and deep groove from other branchial swellings, with rounded high swelling at inner end. Mesobranchial and epibranchial areolations united, except for notch on their posterior slope indicating separation; mesobranchial swelling rounded; epibranchial

well-marked, but shallow, grooves. Grooves separating various swellings deep and wide in posterior, narrow and shallow in anterior part of carapace.

Antennules transverse, separated by thin wall. Buccal cavity large, square.

Sternum small, longer than wide, with

deep median trench for placement of abdomen indicating that holotype is male. Only a small, triangular part of fourth somite remained outside trench and was therefore presumably not covered by the male abdomen. Only a tiny posterior corner

mile southwest of the crossing of the Houston and Texas Central Railroad, about  $3\frac{1}{2}$  to 4 miles south of Wortham, Limestone County, Texas. Presumably at or very near U. S. Geological Survey station 10846.<sup>2</sup>

*Geologic horizon.*—Wills Point formation,

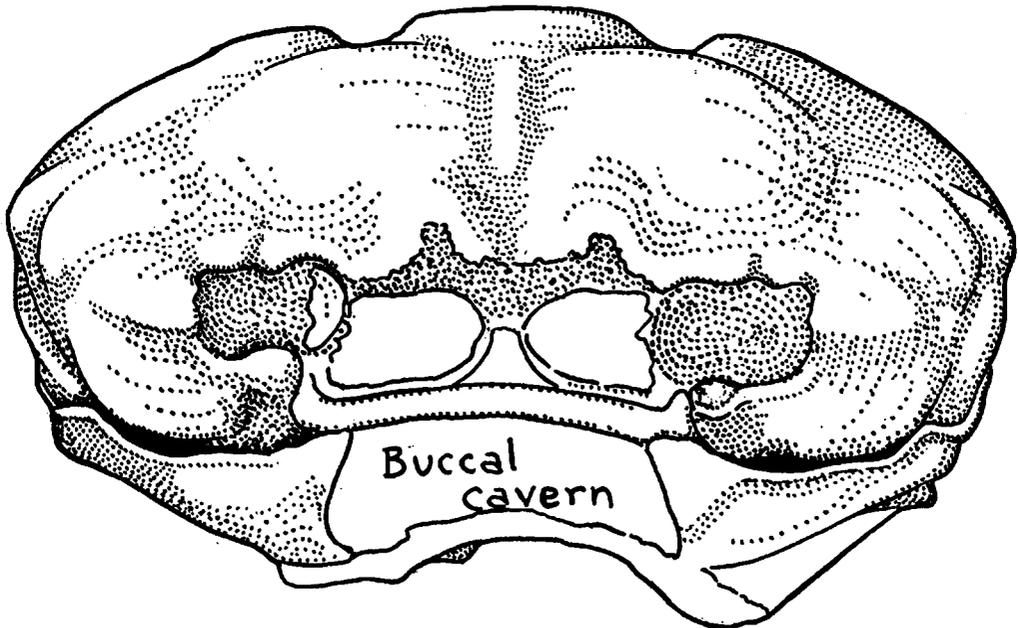


FIG. 3. Frontal view of carapace, *Tehuacana tehuacana* Stenzel, monotype,  $\times 9$ .

of fifth somite is outside trench; therefore all except that corner was covered by the male abdomen.

*Dimensions.*—Length 14.5 mm., width 15.1 mm., width of front 4.7 mm., fronto-orbital width 9.6 mm., width of buccal cavity 5.3 mm.

*Holotype.*—Bureau of Economic Geology, The University of Texas, Austin.

*Type locality.*—Tehuacana Creek, about 1

Midway group, Paleocene. The following fossils were collected at the same place.

*Flabellum conoideum* Vaughan

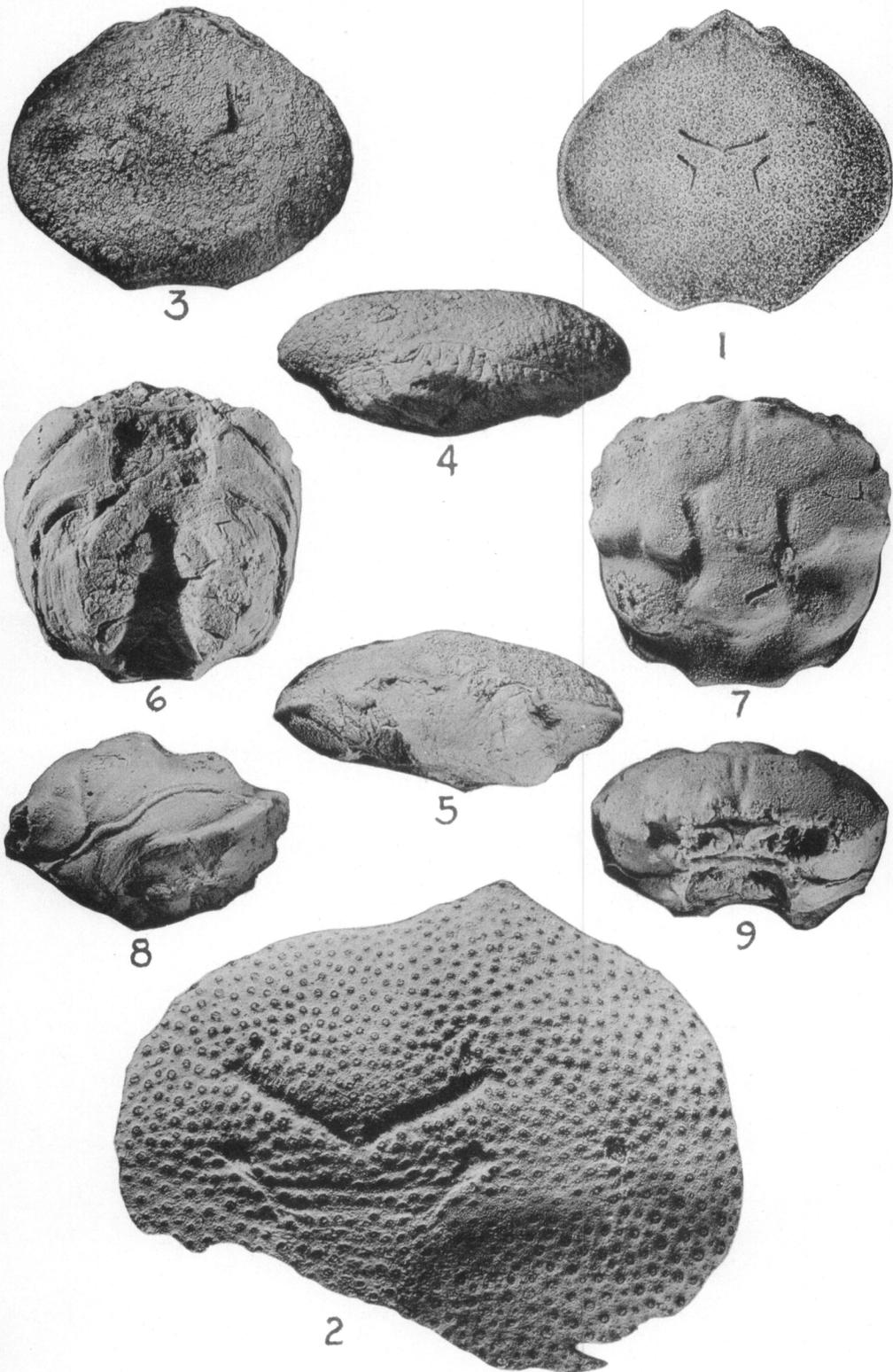
*Trochocyathus uber* Vaughan and Popenoe

*Caryophyllia dumblei* Vaughan and Popenoe

*Balanophyllia ponderosa texana* Vaughan and Popenoe

*Cucullaea macrodonta* Whitfield

<sup>2</sup> Gardner, Julia, The Midway group of Texas: Texas Univ. Bull. 3301, p. 102, 1933 [1935].



Stenzel - Cretaceous Crab and  
Paleocene Crab