

**CRUSTACEANS OF THE  
GLEN ROSE AND  
WALNUT FORMATIONS  
OF CENTRAL TEXAS**

**AS COLLECTED BY ERICH ROSE, AUSTIN, TEXAS**



WALNUT FORMATION  
FREDERICKSBURG GROUP  
(~105MYA)

GLEN ROSE FORMATION  
TRINITY GROUP  
(~110-105MYA)

BOTH FORMATIONS ARE  
PART OF THE LOWER CRETACEOUS  
ALBIAN STAGE

# WALNUT & GLEN ROSE FORMATIONS

Period	Series	Stage	Groups	Formations	Members	Units	Specimens	Notes	
Cretaceous	Comanchean	Albian	Fredericksburg	Comanche Peak					
				Walnut	Upper Marl				
					Keys Valley Marl	*	Highly fossiliferous unit		
					Cedar Park				
					Bee Cave	*	Highly fossiliferous unit		
			Bull Creek						
			Trinity	Glen Rose	Upper	7			
						6	*	Loriolia MB	
						5			
						4			
						3	*	Orbitolina MB	
						2			
						1			
						Lower		*	Salenia texana zone @ top
			2	*	Echinoid MB @ base of unit				
1									

<b>18 DESCRIBED SPECIES (*SPECIES I HAVE COLLECTED):</b>	<b>OCCURRENCE</b>	<b>REFERENCES</b>
* <i>HOMARUS TRAVISENSIS</i> STENZEL, 1945	GR & W	STENZEL, 1945
* <i>HOMARUS SP.</i>	GR	SCHWEITZER ET AL. 2016
* <i>PAGURUS BANDERENSIS</i> RATHBUN, 1935	GR & W	STENZEL, 1945
<i>PAGURUS TRAVISENSIS</i> STENZEL, 1945	W?	STENZEL, 1945
* <i>CALLIANASSA KLOFI</i> (BISHOP, 1983)	GR & W	BISHOP, 1983; SCHWEITZER ET AL. 2016
* <i>CALLIANASSA SP.</i>	GR & W	SCHWEITZER ET AL. 2016
* <i>TRACHYNOTOCARCINUS NAGLEI</i> (BISHOP, 1983)	GR & W	BISHOP, 1983; SCHWEITZER ET AL. 2016
* <i>PALAEODROMITES XESTOS</i> SCHWEITZER ET AL. 2016	W	SCHWEITZER ET AL. 2016
<i>ROSADROMITES TEXENSIS</i> SCHWEITZER ET AL. 2016	GR	BISHOP, 1983; SCHWEITZER ET AL. 2016
<i>VESPRIDROMITES ? SCOTTI</i> (BISHOP, 1983)	GR	BISHOP, 1983; SCHWEITZER ET AL. 2016
* <i>ROEMERUS ROBUSTUS</i> BISHOP, 1983	GR	BISHOP, 1983; SCHWEITZER ET AL. 2016
<i>CENOMANOCARCINUS RENFROAE</i> (STENZEL, 1945)	GR	STENZEL, 1945; SCHWEITZER ET AL. 2016
* <i>CENOMANOCARCINUS COOKSEYI</i> OSSO ET AL. 2015	W	OSSO ET AL. 2015
* <i>JUGLOCARCINUS TUMIDUS</i> GARVIE ET AL. 2017	W	GARVIE ET AL., 2017
<i>AETOCARCINUS RODDAI</i> (BISHOP, 1983)	GR	BISHOP, 1983; SCHWEITZER ET AL. 2016
<i>AETOCARCINUS MURICATUS</i> SCHWEITZER ET AL., 2016	GR	SCHWEITZER ET AL. 2016
* <i>NECROCARCINUS HODGESI</i> (BISHOP, 1983)	GR & W	BISHOP, 1983; SCHWEITZER ET AL. 2016
<i>KARYOSIA APICAVA</i> SCHWEITZER ET AL. 2016	GR & W	SCHWEITZER ET AL. 2016
<i>HILLIUS YOUNGI</i> BISHOP, 1983	GR	BISHOP, 1983
* <i>TORYNOMMA ? DENSUS</i> BISHOP, 1983 [CHELAE INCERTAE SEDIS]	GR	BISHOP, 1983

# REFERENCES

(IN CHRONOLOGICAL ORDER)

**FOSSIL CRUSTACEA OF THE ATLANTIC AND GULF COASTAL PLAIN, MARY J. RATHBUN, 1935, GEOLOGIC SOCIETY OF AMERICA SPECIAL PAPER VOL. 2**

**DECAPOD CRUSTACEANS FROM CRETACEOUS OF TEXAS, H. B. STENZEL, 1945, UNIV. OF TEXAS PUBLICATION NO. 4401, PP. 401-477**

**FOSSIL DECAPOD CRUSTACEANS FROM THE LOWER CRETACEOUS, GLEN ROSE LIMESTONE OF CENTRAL TEXAS, GALE A. BISHOP, 1983, TRANSACTIONS OF THE SAN DIEGO SOCIETY OF NATURAL HISTORY, VOL. 20 NO.2 PP. 27-55**

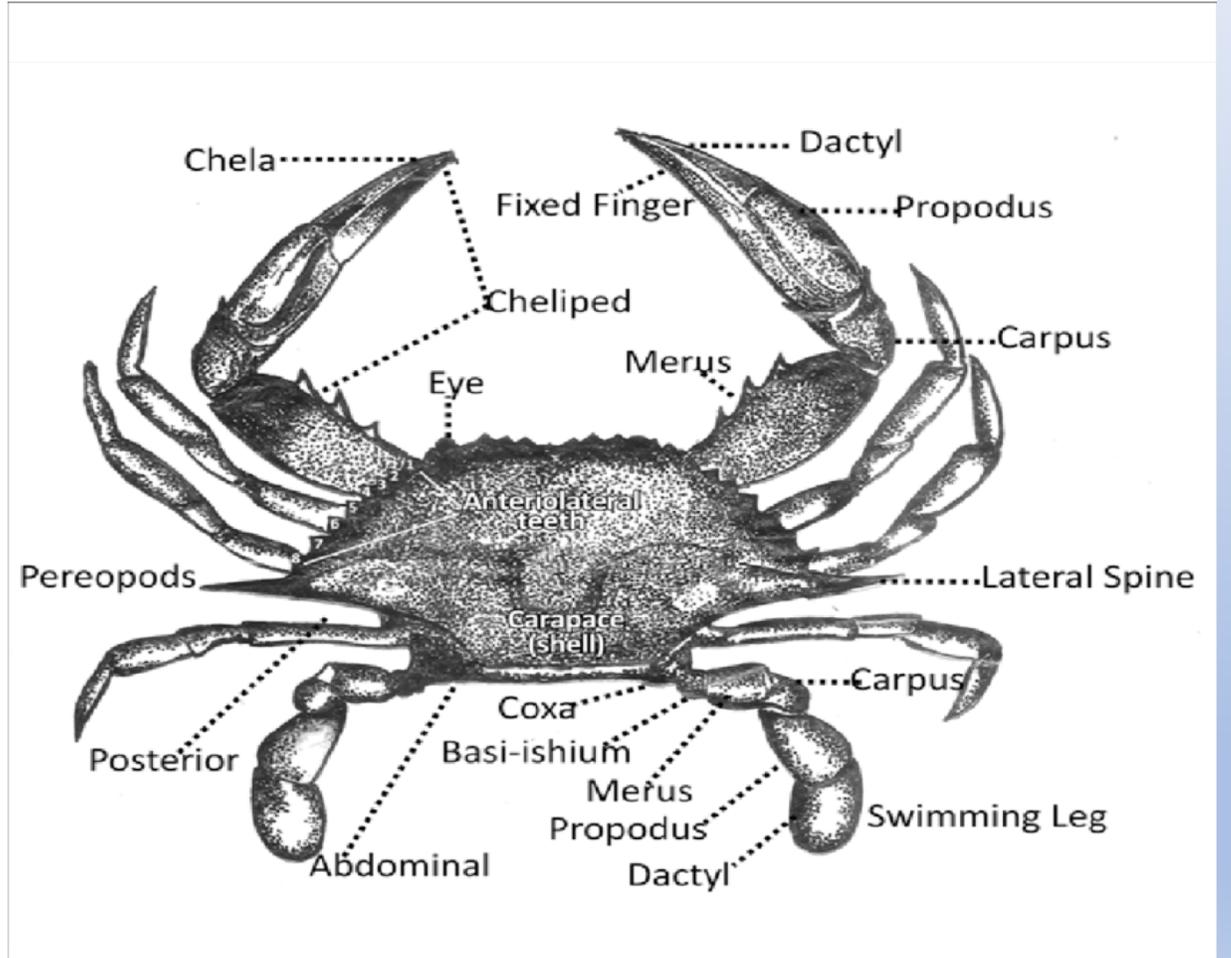
**TWO NEW SPECIES OF *CENOMANOCARCINUS* VAN STRAITEN, 1936 (DECAPODA: BRACHYURA: PALEOCORYSTOIDEA) FROM THE LOWER AND MIDDLE CRETACEOUS OF TEXAS, USA, WITH REMARKS ON INTRASPECIFIC VARIATION IN *CENOMANOCARCINUS*, ALEX OSSÓ, JOHN JACKSON, AND FRANCISCO J. VEGA, 2015, NEUES JAHRBRUCH FÜR GEOLOGIE UND PALÄONTOLOGIE – ABHANDLUNGEN 278/2 PP. 229-243**

**EARLY CRETACEOUS (ALBIAN) DECAPODS FROM THE GLEN ROSE AND WALNUT FORMATIONS OF TEXAS, USA, CARRIE E. SCHWEITZER, RODNEY M. FELDMANN, WILLIAM L. RADER, AND OVIDIU FRANTESCU, 2016, BULLETIN OF THE MIZUNAMI FOSSIL MUSEUM, NO. 42, PP. 1-22**

**A NEW FAMILY, GENUS AND SPECIES OF CRAB (CRUSTACEA, DECAPODA, BRACHYURA) FROM THE CRETACEOUS (MIDDLE ALBIAN) OF TEXAS, 2017, CHRISTOPHER L. GARVIE, JOE S. H. COLLINS, AND CLAIRE J. T. MELLISH, 2017, BULLETIN OF THE MIZUNAMI FOSSIL MUSEUM, NO. 43, PP. 17-21**

# DECAPOD MORPHOLOGY

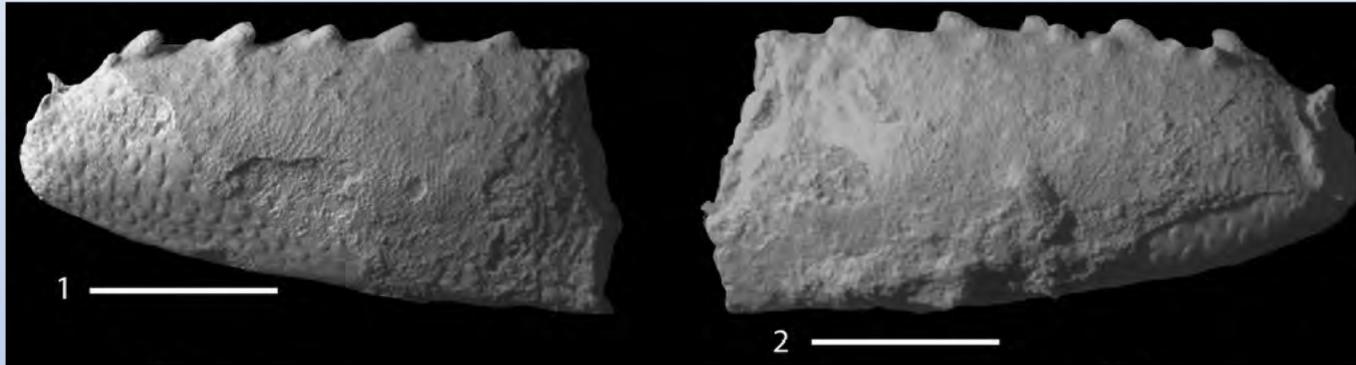
THE WORD DECAPODA, CREATED BY THE COMBINATION OF THE GREEK WORDS DEKA MEANING 'TEN' AND POUS MEANING 'FOOT' IS USED TO CLASSIFY A VARIETY OF FAMILIAR MARINE ANIMALS SUCH AS SHRIMP, LOBSTER, CRAYFISH, HERMIT CRABS AND CRABS (ASKOXFORD.COM, 2004).



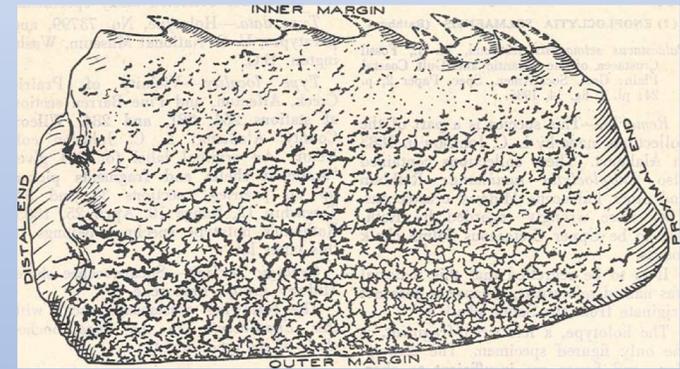
# *HOMARUS TRAVISENSIS* STENZEL, 1945

INFRAORDER ASTACIDEA (LOBSTERS & CRAYFISH)

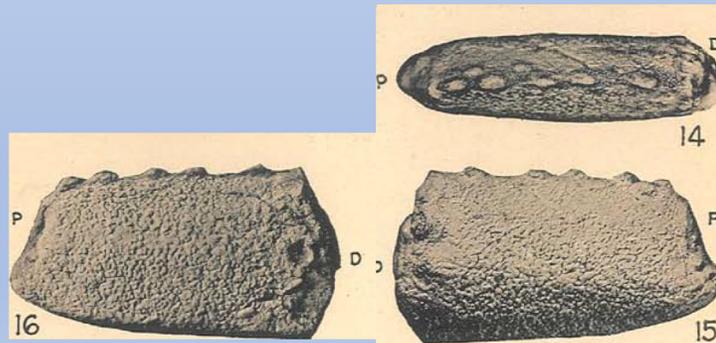
GLEN ROSE & WALNUT FORMATIONS



*Homarus travisensis* Stenzel, 1945 outer & inner surfaces of right chela From Schweitzer et al. 2016  
Scale bar = 1.0 cm



*Homarus travisensis* Stenzel, lower surface of right manus, from Stenzel, 1945



*Homarus travisensis* Stenzel, right manus, from Stenzel, 1945

# *HOMARUS TRAVISENSIS* STENZEL, 1945

INFRAORDER ASTACIDEA (*LOBSTERS & CRAYFISH*)



KTX906: Unit 3, Upr Mbr  
Glen Rose Fm. Comal Co.



KTX2285: Bee Cave Mbr  
Walnut Fm. Travis Co.



# *HOMARUS SP.*

SPECIMENS WITH MINIMAL OR NO SPINES SHOWING  
POSSIBLY ANOTHER LOBSTER GENERA



KTX611: Unit 3, Upr Mbr.  
Glen Rose Fm. Comal Co.



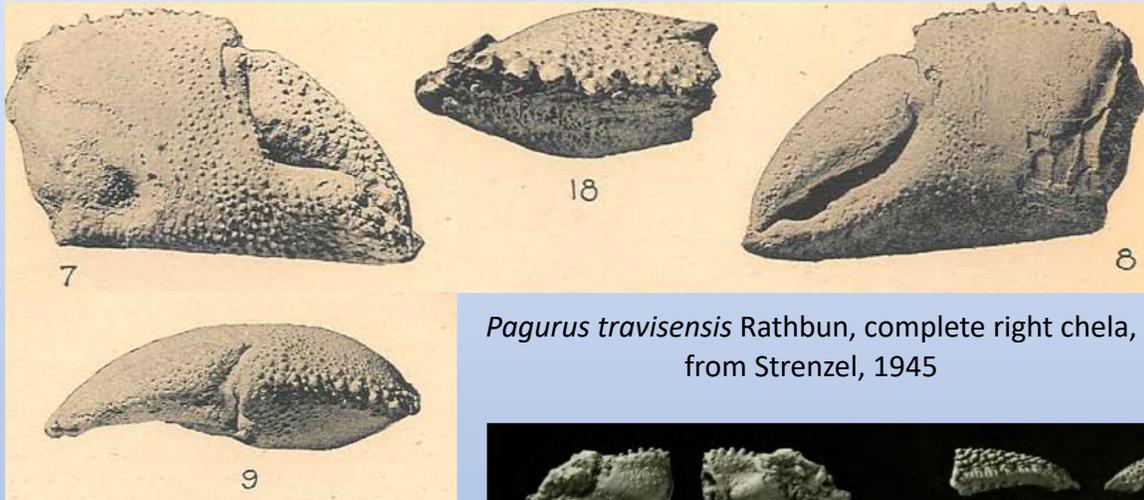
KTX848: Unit 3, Upr Mbr.  
Glen Rose Fm. Blanco Co.

# *PAGURUS BANDERENSIS* RATHBUN, 1935

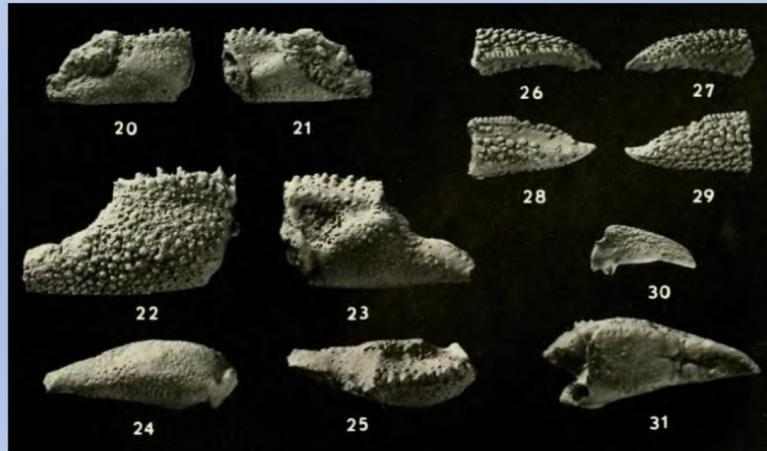
INFRAORDER ANOMURA (MOLE, HERMIT AND COCONUT CRABS)

AKA *PALEOPAGURUS BANDERENSIS*

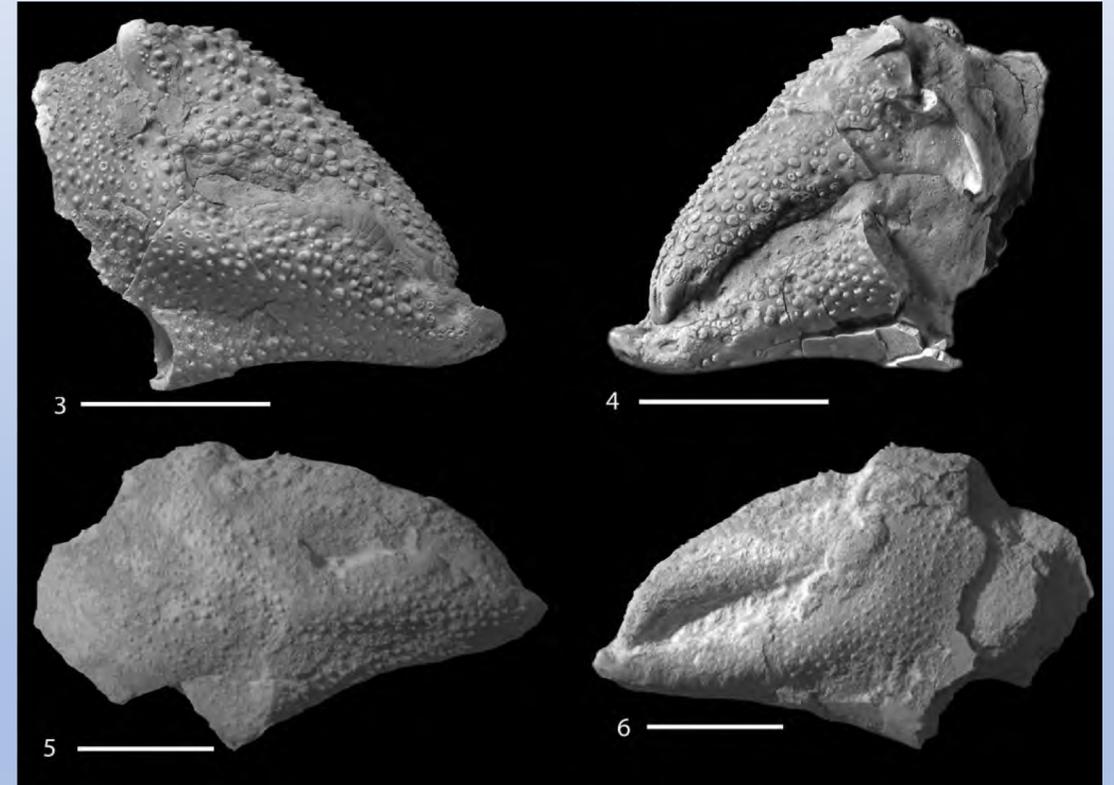
GLEN ROSE & WALNUT FORMATIONS



*Pagurus travisensis* Rathbun, complete right chela, from Strenzel, 1945



*Pagurus travisensis* Rathbun, various bits, from Bishop, 1983

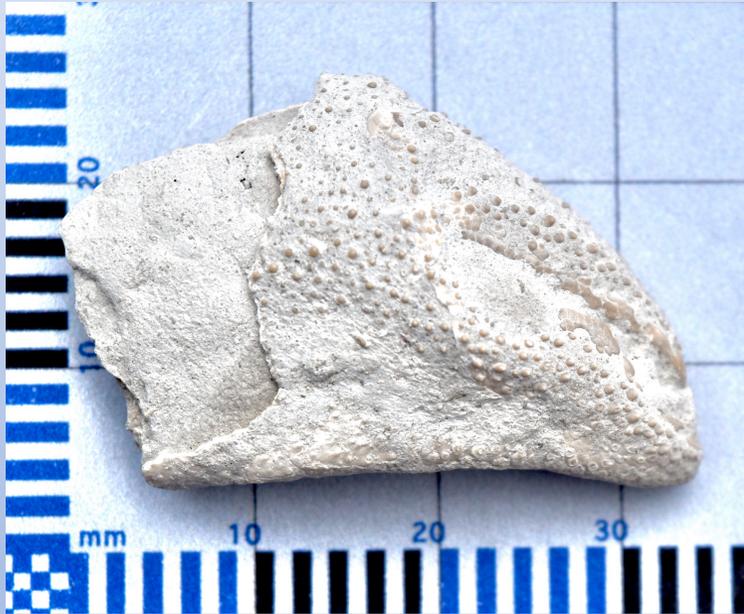


*Pagurus travisensis* Rathbun, complete right chela, from Schweitzer et al., 2016  
Scale bar = 1.0 cm

# *PAGURUS BANDERENSIS* RATHBUN, 1935

INFRAORDER ANOMURA (MOLE, *HERMIT* AND COCONUT CRABS)

AKA *PALEOPAGURUS BANDERENSIS*



KTX1221: Unit 2 EMB, Lwr Mbr.  
Glen Rose Fm. Comal Co.



KTX1728: Unit 6, Upr Mbr.  
Glen Rose Fm. Travis Co.



KTX1171: Bee Cave Mbr.  
Walnut Fm. Travis Co.

# *PAGURUS BANDERENSIS* RATHBUN, 1935

HERMIT CRABS HAVE LIMITED HARD PARTS

CLAWS AND WALKING LEGS WERE ARE THE ONLY PARTS THAT NORMALLY FOSSILIZED



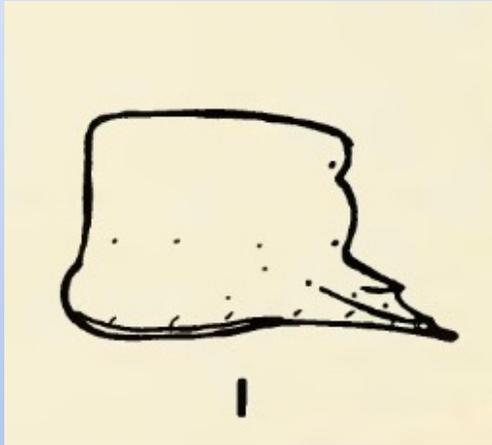
Unit 2 EMB, Lwr Mbr.  
Glen Rose Fm. Comal Co.

# *CALLIANASSA KLOFI* (BISHOP, 1983)

INFRAORDER AXXIDEA (MUD, *GHOST*, BURROWING SHRIMP)

AKA *PROTOCALLIANASSA KLOFI*

GLEN ROSE & WALNUT FORMATIONS



Line drawing from  
Bishop, 1983

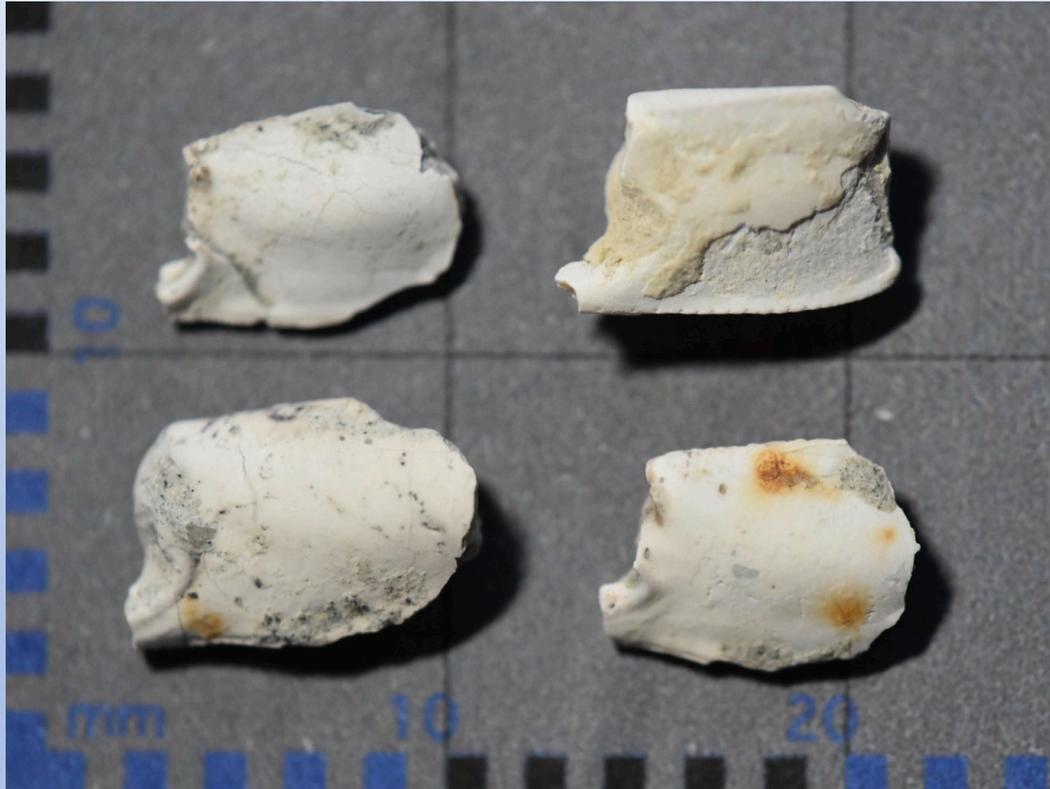


Protocallianassa klofi Bishop, Holotype, right major propodus  
Upr Mbr , Glen Rose Fm Blanco Co.  
From Bisgop, 1983

# *CALLIANASSA KLOFI* (BISHOP, 1983)

INFRAORDER AXXIDEA (MUD, *GHOST*, BURROWING SHRIMP)

AKA *PROTOCALLIANASSA KLOFI*



Keys Valley mbr  
Walnut Fm. Bell Co.



KTX1048: Unit 6, Upr Mbr  
Glen Rose Fm. Travis Co.

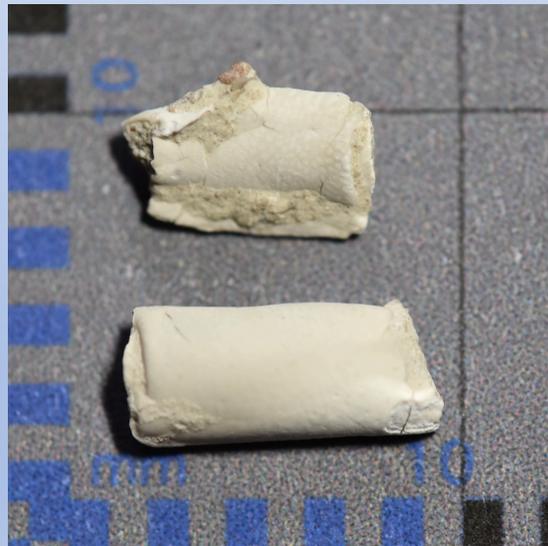
# *CALLIANASSA SP.*

UNIDENTIFIED VERY TYPICAL “CALLIANASSID” CHELAE

*LITTLE “CHICLETS”, COMMON THROUGHOUT THE CRETACEOUS OF TEXAS*



Unit 3 Upr Mbr  
Glen Rose Fm Blanco Co.



Unit 2, EMB, Lwr Mbr  
Glen Rose Fm Comal Co.



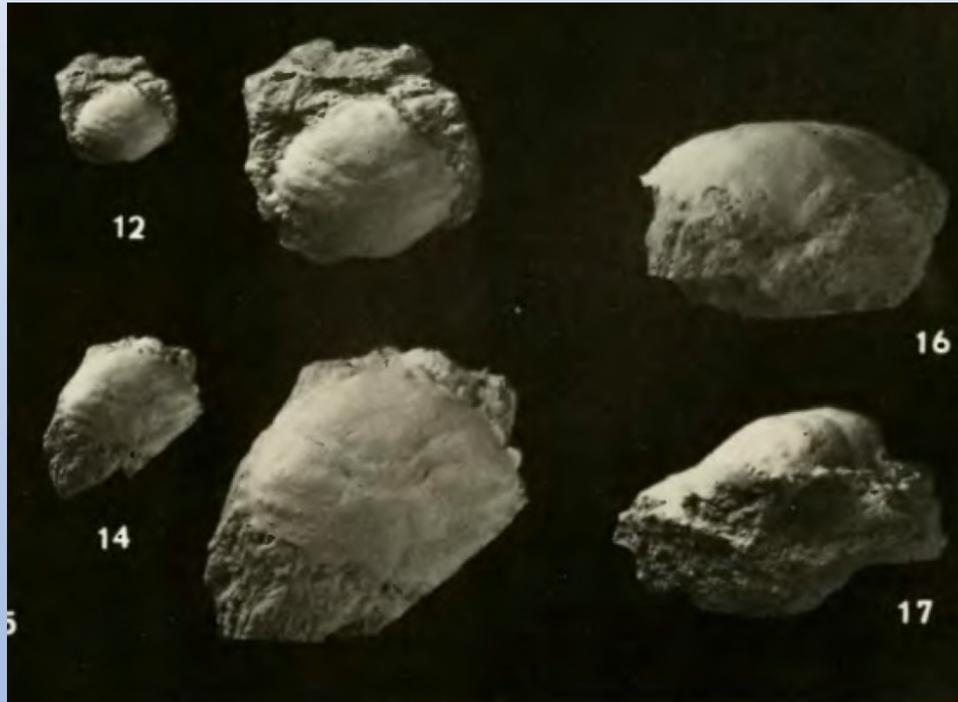
Unit 6, Loriolia marker bed, Upr Mbr  
Glen Rose Fm Travis Co.

# *TRACHYNOTOCARCINUS NAGLEI* (BISHOP, 1983)

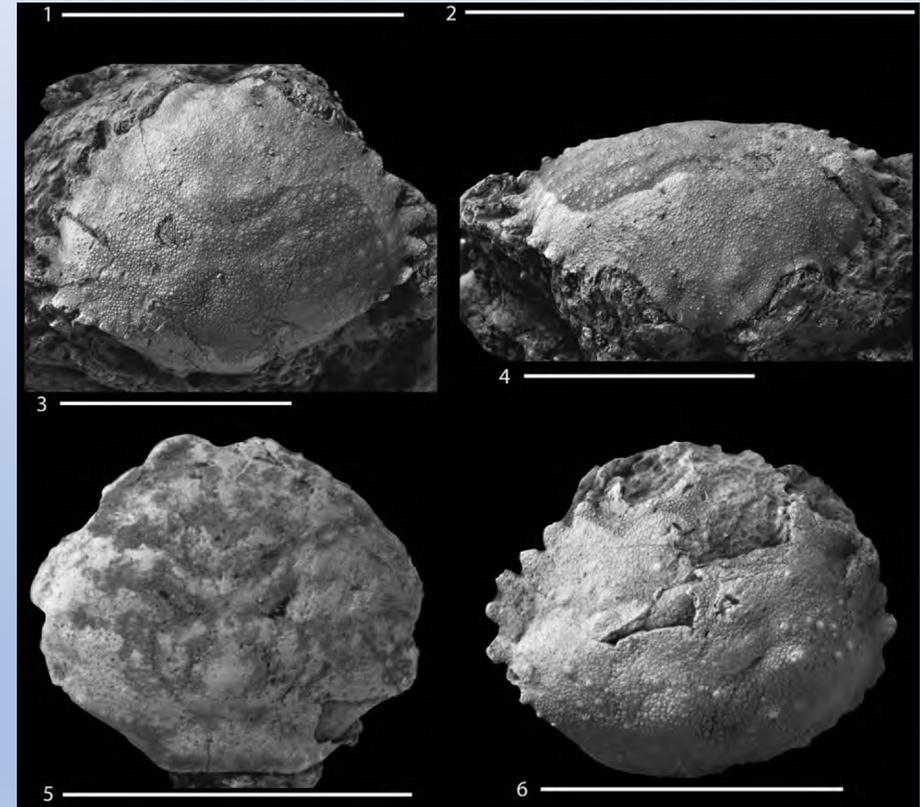
INFRAORDER BRACHYURA (CRABS)

AKA *PALAEODROMITES NAGLEI*

GLEN ROSE & WALNUT FORMATIONS



*Palaeodromites naglei* Bishop, carapace,  
from Bishop, 1983



*Trachynotocarcinus naglei* (Bishop), carapace,  
from Schweitzer et al., 2016  
Scale bar = 1.0 cm

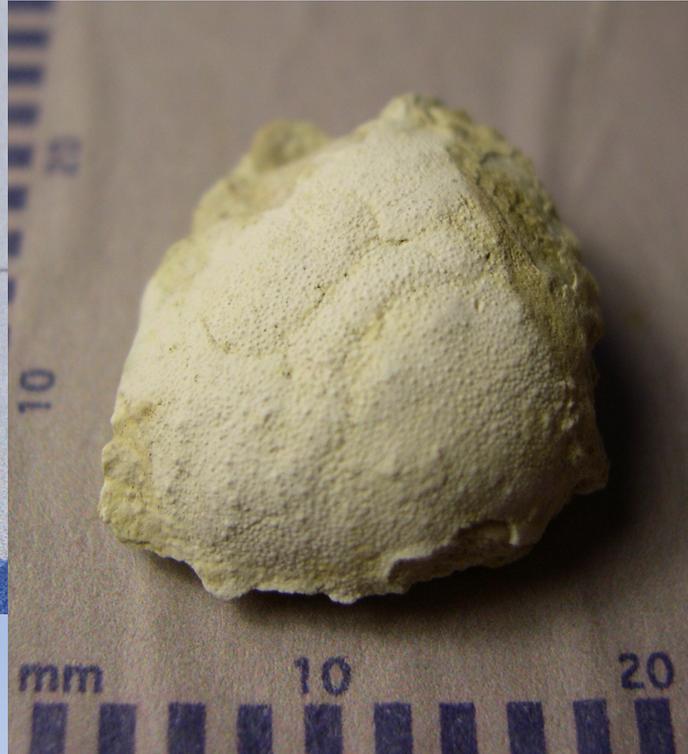
# *TRACHYNOTOCARCINUS NAGLEI* (BISHOP, 1983)

INFRAORDER BRACHYURA (CRABS)

AKA *PALAEODROMITES NAGLEI*



KTX847: Unit 3 Upr Mbr  
Glen Rose Fm Blanco Co.



Note the distinctive furrows at center of carapace

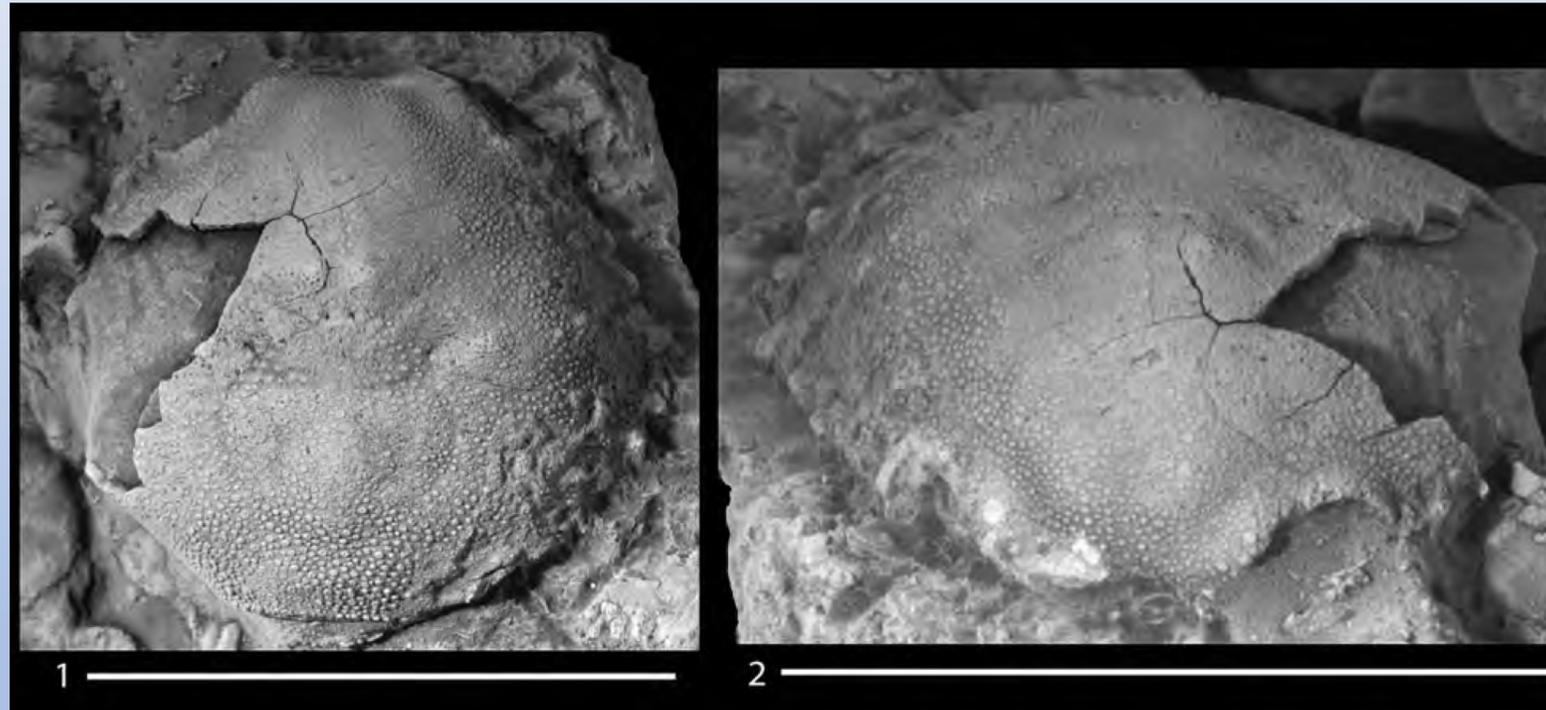


KTX2379: Unit 3 Upr Mbr  
Glen Rose Fm Blanco Co.

# *PALAEODROMITES XESTOS* SCHWEITZER ET AL. 2016

INFRAORDER BRACHYURA (CRABS)

WALNUT FORMATION



*Palaeodromites xestos* Schweitzer et al. ,carapace,  
from Schweitzer et al., 2016  
Scale bar = 1.0 cm

# *PALAEODROMITES XESTOS* SCHWEITZER ET AL. 2016

## INFRAORDER BRACHYURA (CRABS)



KTX2284: Bee Cave Mbr.  
Walnut Fm., Travis Co.  
Collected by Chris Kerr (FF)



KTX1319: Note the distinctive small paired bumps on carapace  
Bee Cave Mbr., Walnut Fm., Travis Co.

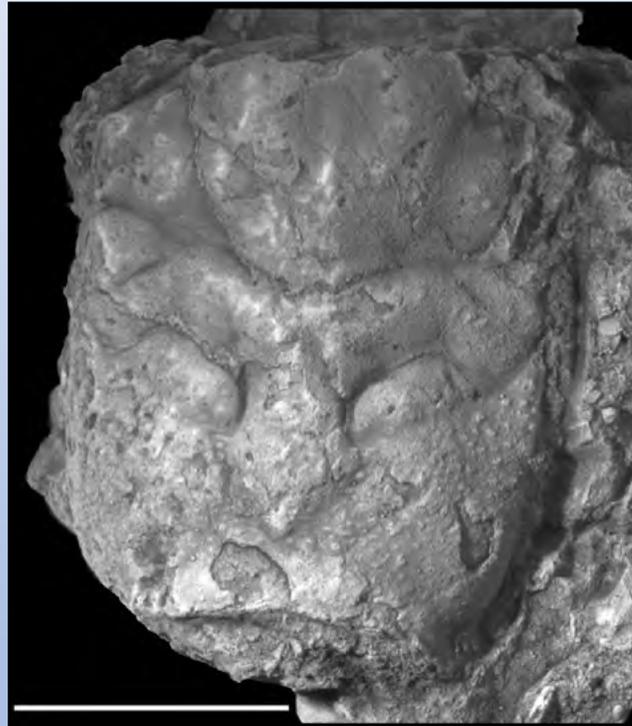


KTX2273: Bee Cave Mbr.  
Walnut Fm., Travis Co.

# *ROSADROMITES TEXENSIS* SCHWEITZER ET AL. 2016

INFRAORDER BRACHYURA (CRABS)

GLEN ROSE FORMATION



*Rosadromites texensis* Schweitzer et al., carapace,  
from Schweitzer et al., 2016  
Scale bar = 1.0 cm

# *VESPRIDROMITES? SCOTTI* (BISHOP, 1983)

INFRAORDER BRACHYURA (CRABS)

AKA *DIORATIOPUS SCOTTI*

*KNOWN FROM A SINGLE STEINKERN COLLECTED FROM THE GLEN ROSE AT JACOB'S WELL, HAYS CO.*

*TENTATIVELY REASSIGNED TO VESPRIDROMITES BY SCHWEITZER ET AL. 2016*

GLEN ROSE FORMATION

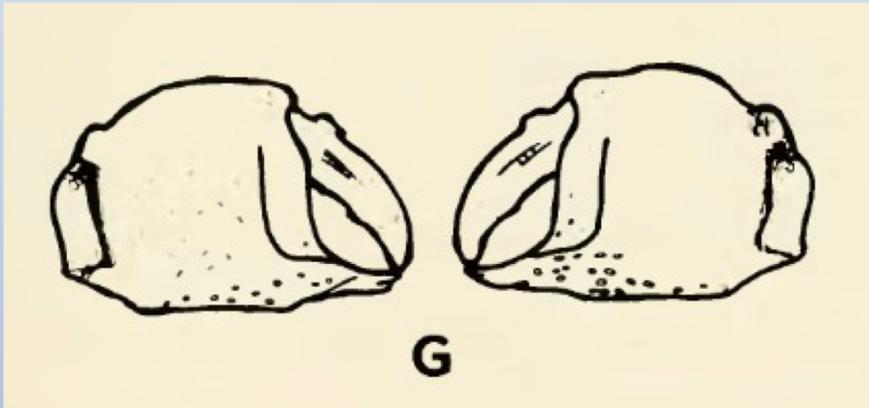


*Dioratiopus scotti* Bishop, carapace steinkern,  
From Bishop, 1983

# *ROEMERUS ROBUSTUS* BISHOP, 1983

INFRAORDER BRACHYURA (CRABS)

GLEN ROSE FORMATION



*Roemerus robustus* Bishop, Chela,  
from Bishop, 1983



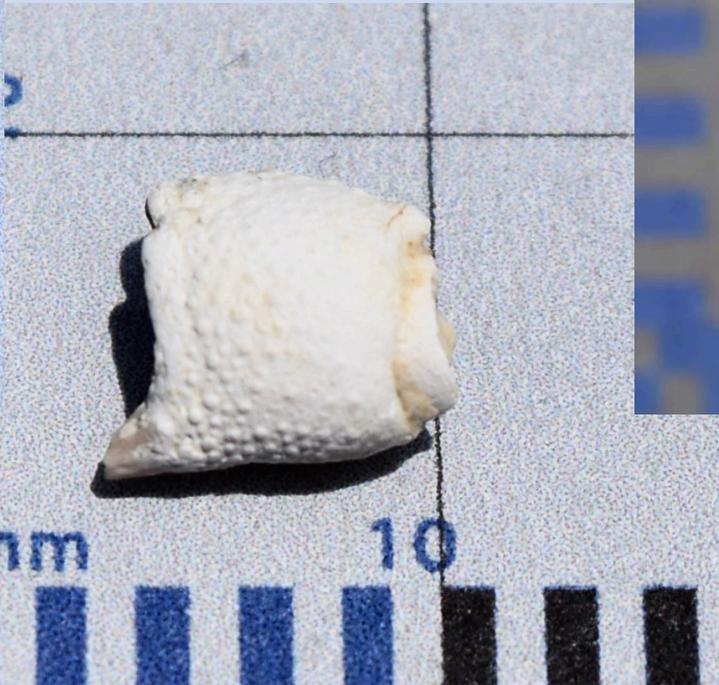
*Roemerus robustus* Bishop,  
from Schweitzer et al., 2016  
Scale bar = 1.0 cm

# *ROEMERUS ROBUSTUS* BISHOP, 1983

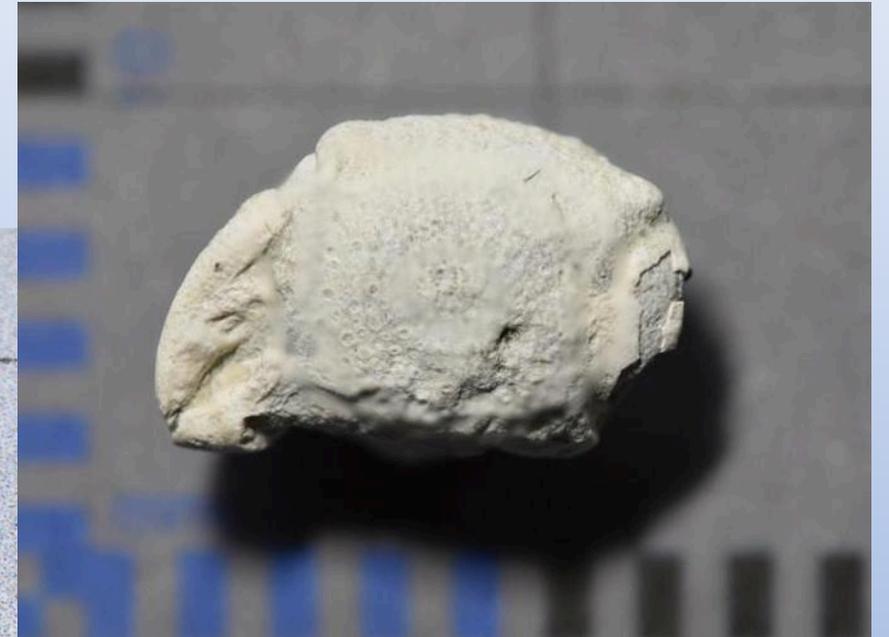
INFRAORDER BRACHYURA (CRABS)



KTX2374: Unit 2 EMB, Lwr Mbr  
Glen Rose Fm Comal Co.



KTX845: Unit 3, Upr Mbr  
Glen Rose Fm Blanco Co.



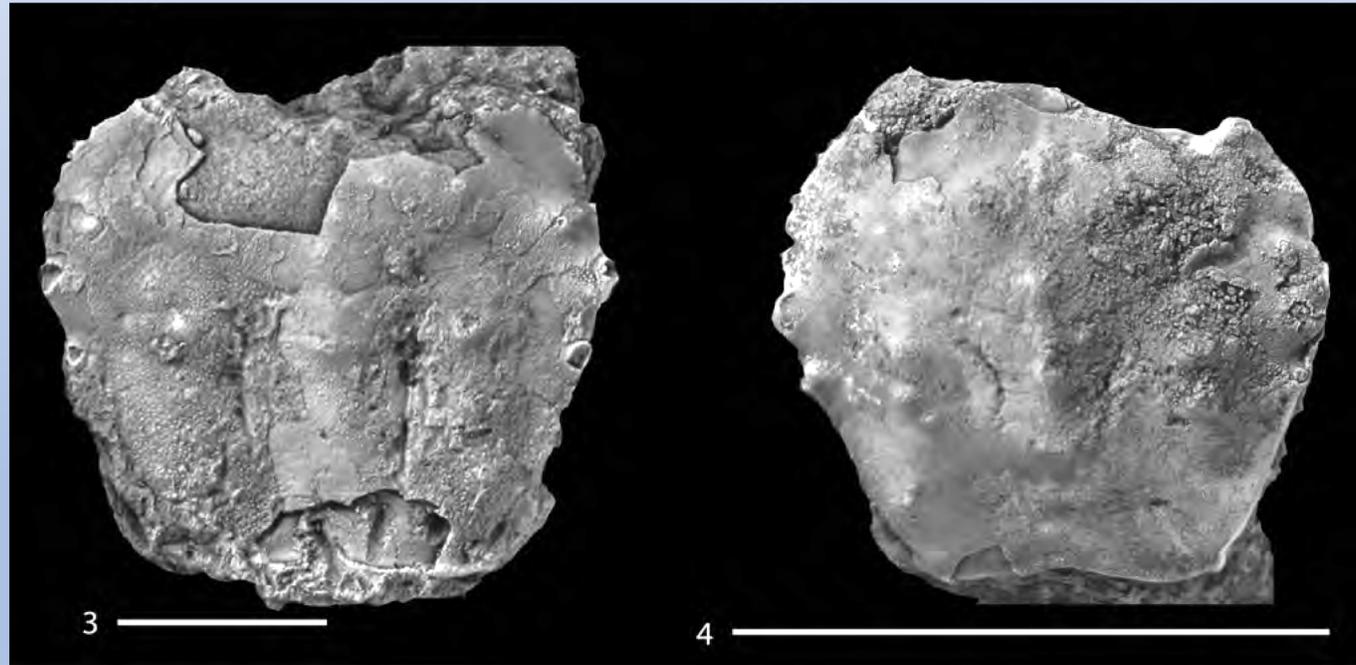
KTX1729: Unit 6, Loriolia MB, Upr Mbr  
Glen Rose Fm Travis Co.

# *CENOMANOCARCINUS RENFROAE* (STENZEL, 1945)

INFRAORDER BRACHYURA (CRABS)

AKA *NECROCARCINUS RENFROAE*, *HASARACANCER RENFROAE*

GLEN ROSE FORMATION

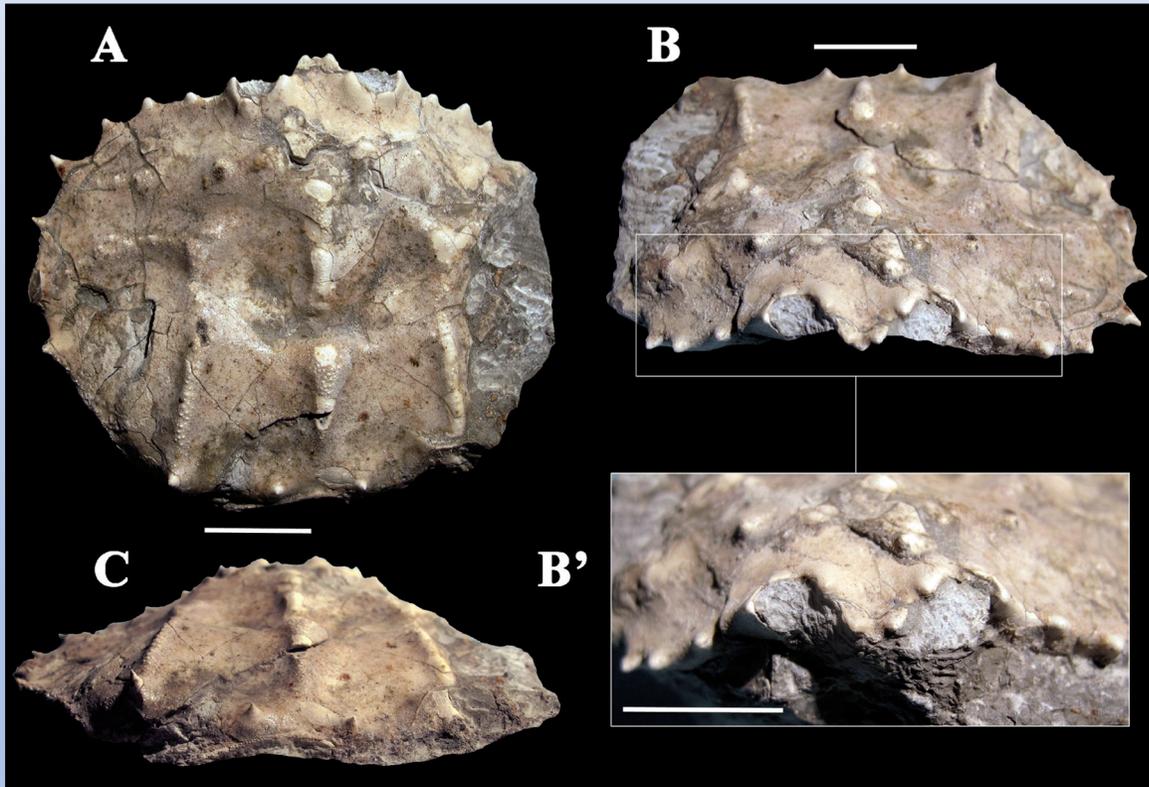


*Cenomanocarcinus renfroae* (Stenzel),  
from Schweitzer et al., 2016  
Scale bar = 1.0 cm

# *CENOMANOCARCINUS COOKSEYI* OSSÖ ET AL. 2015

INFRAORDER BRACHYURA (CRABS)

WALNUT FORMATION



Holotype NPL 70604

Keys Valley Marl Mbr., Walnut Fm, Williamson Co

From Osso et al., 2015



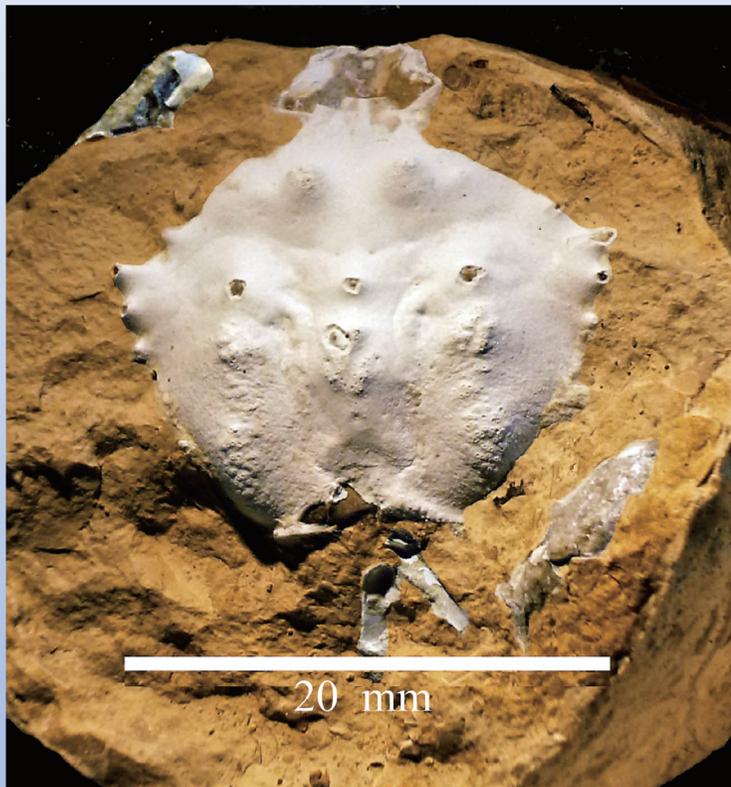
KTX2346: *Cenomanocarcinus* cf. *cookseyi*

Fort Terret, =Walnut Fm, Travis Co

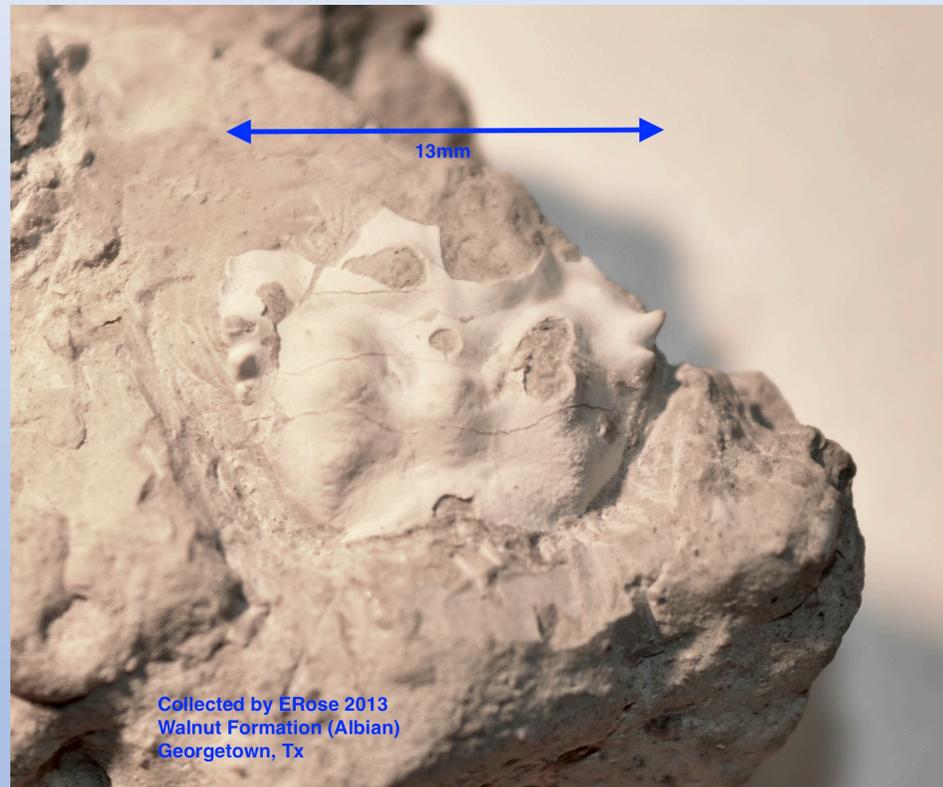
# *JUGLOCARCINUS TUMIDUS* GARVIE ET AL. 2017

INFRAORDER BRACHYURA (CRABS)

WALNUT FORMATION



Holotype, TMM NPL 51914  
Keys Valley Marl Mbr, Walnut Fm, Coryell Co  
From Garvie et al., 2017



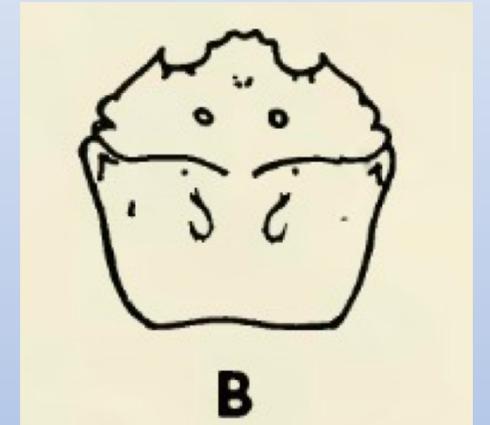
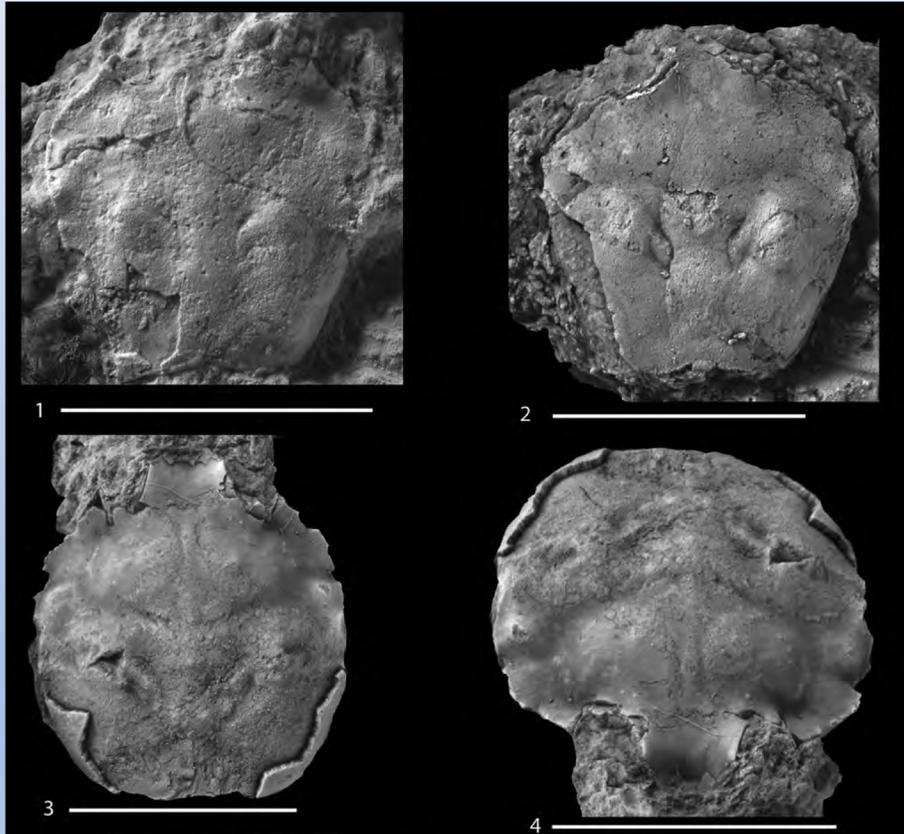
*Juglocarcinus* sp. cf. *tumidus*  
Keys Valley Marl Mbr, Walnut Fm, Williamson Co

# *AETOCARCINUS RODDAI* (BISHOP, 1983)

INFRAORDER BRACHYURA (CRABS)

AKA *DIAULAX RODDAI*, *PSEUDONECROCARCINUS STENZELI*

GLEN ROSE FORMATION



Line drawings from Bishop, 1983

E) *Diaulax roddai* Bishop

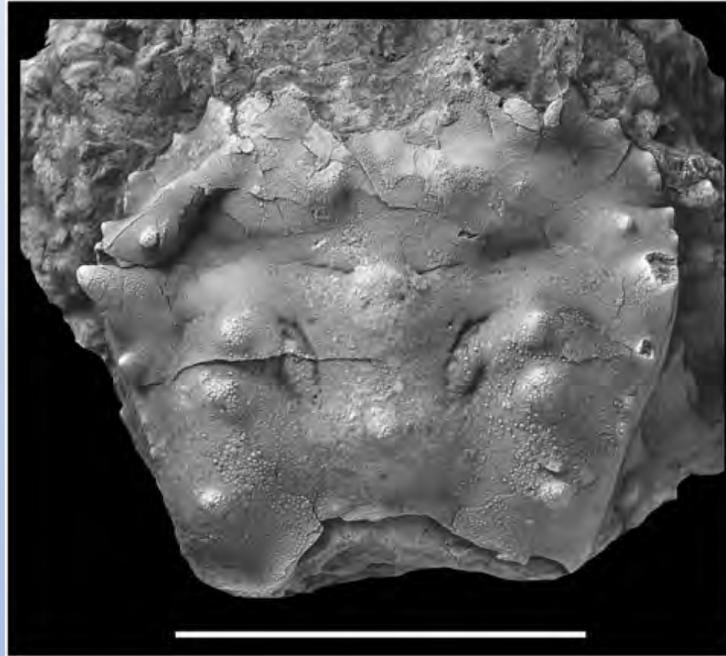
B) *Pseudonecrocarcinus stenzeli* Bishop

*Aetocarcinus roddai* 1 is Holotype, SDSNH 23640 note 3& 4 are  
Internal molds with only fragments of shell  
From Schwitzer et al., 2016

# *AETOCARCINUS MURICATUS* SCHWEITZER ET AL., 2016

INFRAORDER BRACHYURA (CRABS)

GLEN ROSE FORMATION



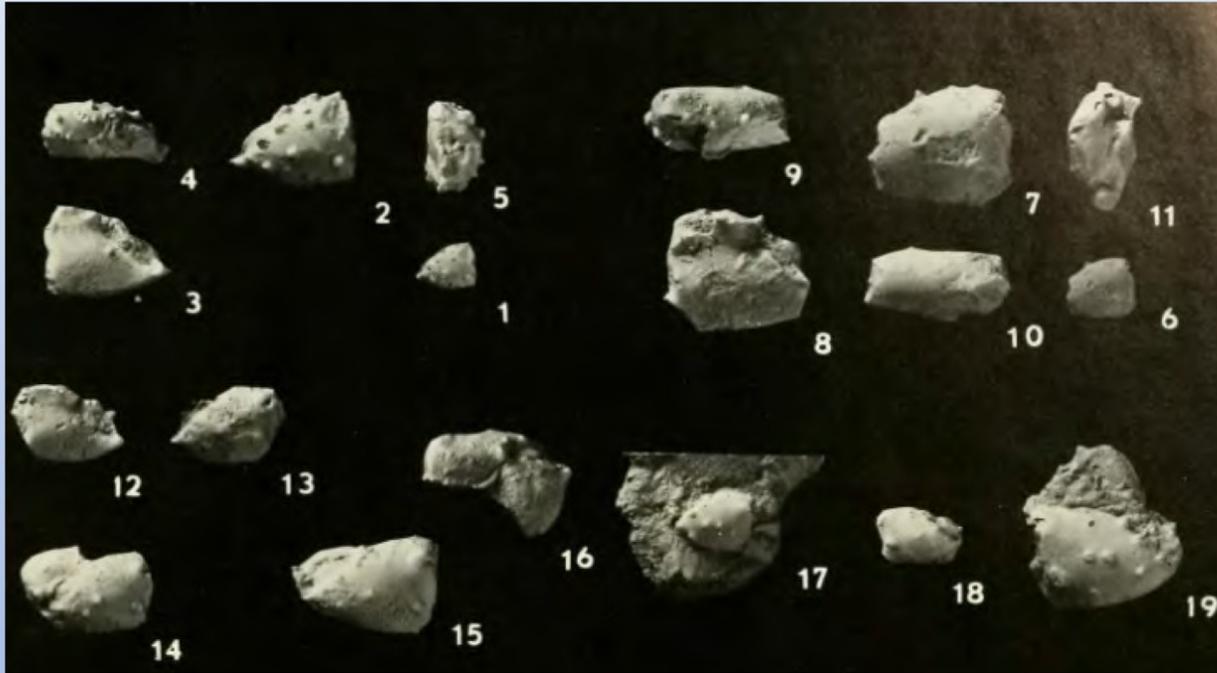
*Aetocarcinus muricatus* new genus,  
new species. TMM 69683, holotype. Scale bar = 1.0 cm  
From Schweitzer et al., 2016

# *NECROCARCINUS HODGESI* (BISHOP, 1983)

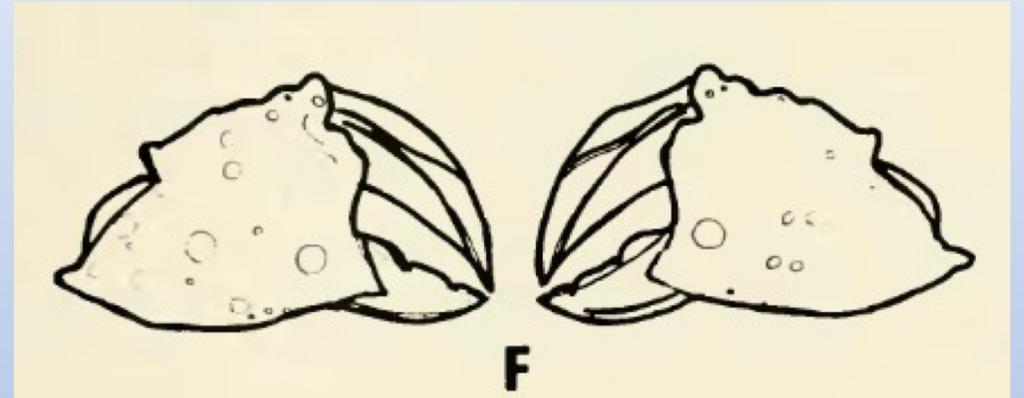
INFRAORDER BRACHYURA (CRABS)

AKA *PREHEPATUS HODGESI*

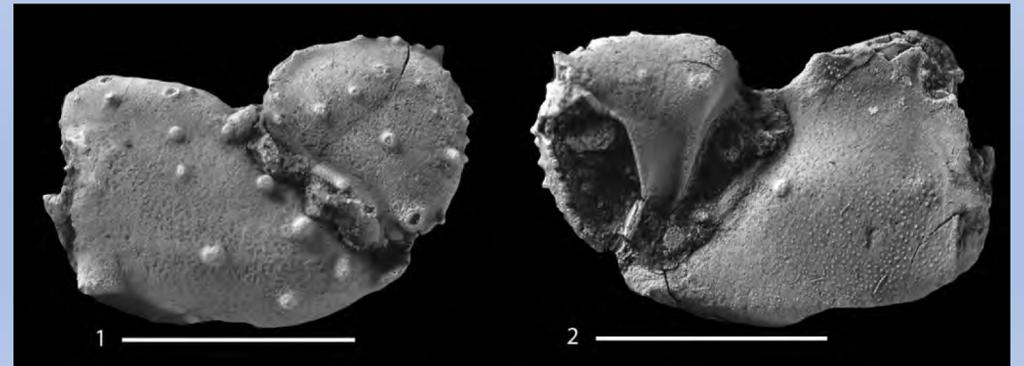
GLEN ROSE & WALNUT? FORMATIONS



*Prehepatus hodgesi* Bishop 1-5 Holotype & various partial chelae & propodus  
Glen Rose Fm, From Bishop, 1983



*Prehepatus hodgesi* Bishop, Liine drawing from Bishop, 1983



*Necrocarcinus hodgesi* (Bishop) Left manus and carpus  
From Schweitzer et al., 2016

# *NECROCARCINUS HODGESI* (BISHOP, 1983)

INFRAORDER BRACHYURA (CRABS)



KTX2279: *Necrocarcinus hodgesi* (Bishop) outer and inner surface of right propodus  
Bee Cave Mbr, Walnut Fm, Travis Co.



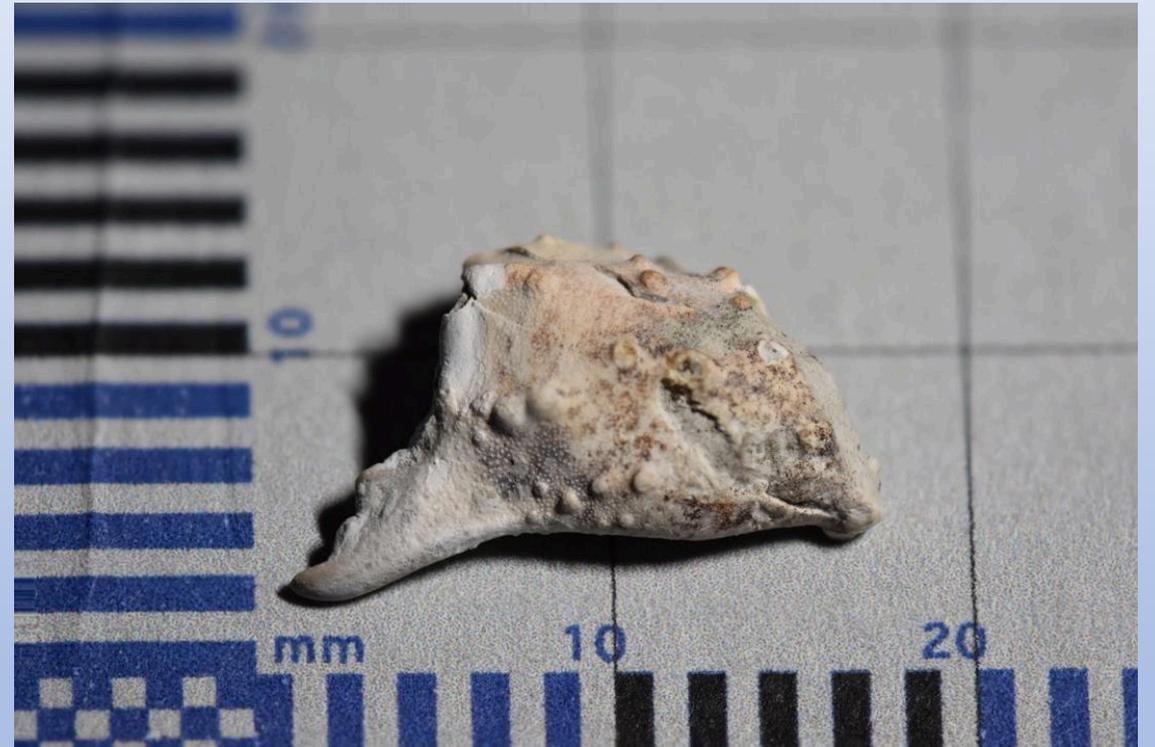
KTX2368: *Necrocarcinus* sp. cf. *hodgesi* (Bishop) outer and inner surface of left propodus  
Keys Valley Marl Mbr, Walnut Fm, Bell Co.

# *NECROCARCINUS HODGESI* (BISHOP, 1983)

INFRAORDER BRACHYURA (CRABS)



*Necrocarcinus hodgesi* (Bishop) articulated propodus & carpus  
Keys Valley Marl Mbr, Walnut Fm, Williamson Co.

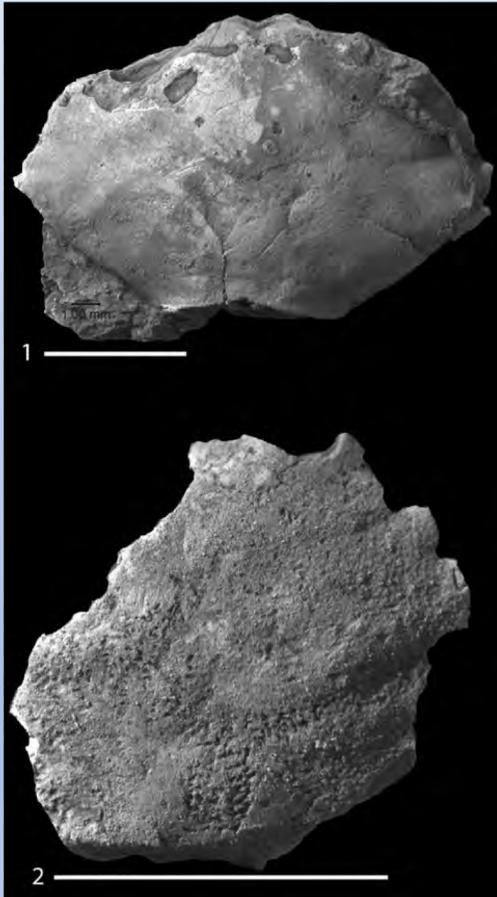


KTX2276: *Necrocarcinus hodgesi* (Bishop) propodus with fixed finger attached  
Bee Cave Mbr, Walnut Fm, Travis Co.

# *KARYOSIA APICAVA* SCHWEITZER ET AL. 2016

INFRAORDER BRACHYURA (CRABS)

GLEN ROSE & WALNUT FORMATIONS



*Karyosia apicava*, TMM NPL 69679, holotype, dorsal carapace; 2, TMM NPL 69680, right anterolateral margin and orbit, paratype. Scale bars = 5.0 mm.

From Schweitzer et al., 2016

# *KARYOSIA* SCHWEITZER ET AL. 2016

INFRAORDER BRACHYURA (CRABS)

GLEN ROSE & WALNUT FORMATIONS



*Karyosia* sp. Schweitzer et al. Keys Valley Member, Walnut Fm., Williamson Co.

Collected and photographed by John Jackson, Copyright 2018

# *HILLIUS YOUNGI* BISHOP, 1983

INFRAORDER BRACHYURA (CRABS)

GLEN ROSE FORMATION



*Hillius youngi* Bishop carapace top, anterior and right side & line drawing  
Upper Mbr, Glen Rose Fm, Kendall Co.

# *TORYNOMMA ? DENSUS* BISHOP, 1983

CHELAE INCERTAE SEDIS (INFRAORDER UNCERTAIN)

GLEN ROSE FORMATION



*Torynomma ? densus* Bishop chela, 36-40 holotype right propodus  
Upper Mbr, Glen Rose Fm, Kendall Co.  
From Bishop, 1983



Line drawing from Bishop, 1983

# *VARIOUS UNIDENTIFIED SPECIMENS*

COMBINING CLAWS TO CARAPACE?

MATCHING DACTYL (LOOSE PINCERS) TO CHELA (CLAWS)?

ODD LEG SEGMENTS THAT ARE *NOT* PAGURUS?



# *VARIOUS UNIDENTIFIED SPECIMENS*



KTX2375: Unidentified right chela with fixed finger and dactyl intact  
Echinoid marker bed at base of Unit 2, Lower Mbr  
Glen Rose Formation, Comal Co.



Very similar pincers but not the same.  
One is very spiny and the other is not



KTX2372: Unidentified rpartial chela with partial fixed finger  
Echinoid marker bed at base of Unit 2, Lower Mbr  
Glen Rose Formation, Comal Co.

# *VARIOUS UNIDENTIFIED SPECIMENS*



Unidentified right & left chela one with partial movable pincer  
Bee Cave Mbr, Walnut Formation, Travis Co.



Very similar to *Necrocarcinus hodgesi*

This form has a smoother surface with smaller  
& more regular-sized spines



# *VARIOUS UNIDENTIFIED SPECIMENS*



Unidentified left chela one with partial movable and fixed pincers  
Keys Valley Marl Mbr, Walnut Formation, Bell Co.



unidentified large pincer  
Keys Valley Marl Mbr, Walnut Formation, Bell Co.



unidentified pincers  
Bee Cave Mbr, Walnut Formation, Travis Co.

# *VARIOUS UNIDENTIFIED SPECIMENS*



unidentified propodus and carpus  
Bee Cave Mbr, Walnut Formation, Travis Co.



# *VARIOUS UNIDENTIFIED SPECIMENS*



unidentified chela with partial fixed pincer(s) & other with carpus  
Bee Cave Mbr, Walnut Formation, Travis Co.

# *VARIOUS UNIDENTIFIED SPECIMENS*



unidentified claws and legs

*IN CONCLUSION:*

*MORE SPECIES PRESENT THAN COMMONLY THOUGHT*

*MANY DESCRIBED SPECIES NEED BETTER TYPE  
MATERIAL*

*CARAPACE & CLAW ASSOCIATIONS STILL UNKNOWN*

*ARTICULATED SPECIMENS WOULD HELP SORT OUT  
WHO IS WHO*

*LIKELY STILL UNDESCRIBED DECAPODS IN THE  
FORMATIONS IN NEED OF RESEARCH*

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NEW SITES AND IDENTIFY COOL FOSSILS*