

Bexar County
Karst Invertebrate Distribution

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July 28, 2011

1.0 Introduction

The purpose of this document is to provide current distribution information for the nine Bexar County endangered karst invertebrates. These species are generally located in the area depicted by the karst fauna regions (KFRs) in Figure 1 (for more information on KFRs see Service 2008). This document will be updated periodically as we receive more information. To assist us in updating the information on the species, we request that any available information be submitted to the U.S. Fish and Wildlife Service (Service) Austin Ecological Services Office (address on cover).

Historic Confirmations

In the past, we considered that a species was confirmed from a location if we received documentation stating that a taxonomic expert confirmed the species identity at that particular location. There are some locations that were identified as confirmed; however, we cannot locate the original documentation and/or we may not know where the voucher specimen is curated. In these cases, it would be helpful to survey those locations again to obtain voucher specimens. When possible, we have documented where specimens are curated under “specimen location” in Table 1.

Recent Confirmations

Recent confirmations (within the last 5 years) of a species location were made by having a taxonomic expert identify a specimen using morphological techniques. However, for the *Cicurina*, a taxonomist may use morphological or molecular techniques (see Paquin and Hedin 2004). The permittee that collected the specimen would then submit the taxonomist’s report to the Service.

Future Confirmations

When a report is submitted to the Service identifying a confirmed location, it should include a taxonomist’s report identifying the specimen, the name of the collection where the specimen is curated, and the accession number of each curated specimen. It is important to ensure that all specimens are curated in an appropriate collection for future reference and research purposes. Appropriate collections include the Texas Memorial Museum (TMM) or other Service-approved institution. All information required in our karst invertebrate survey requirements (Service 2006) should also be in the report.

As of July 2011, the known distribution of the following species is shown in Table 1:

Unnamed ground beetle (*Rhadine exilis*)

Unnamed ground beetle (*Rhadine infernalis*)

Helotes mold beetle (*Batrisodes venyivi*)

Cokendolpher cave harvestman (*Texella cokendolpheri*)

Government Canyon Bat Cave spider (*Neoleptoneta microps*)

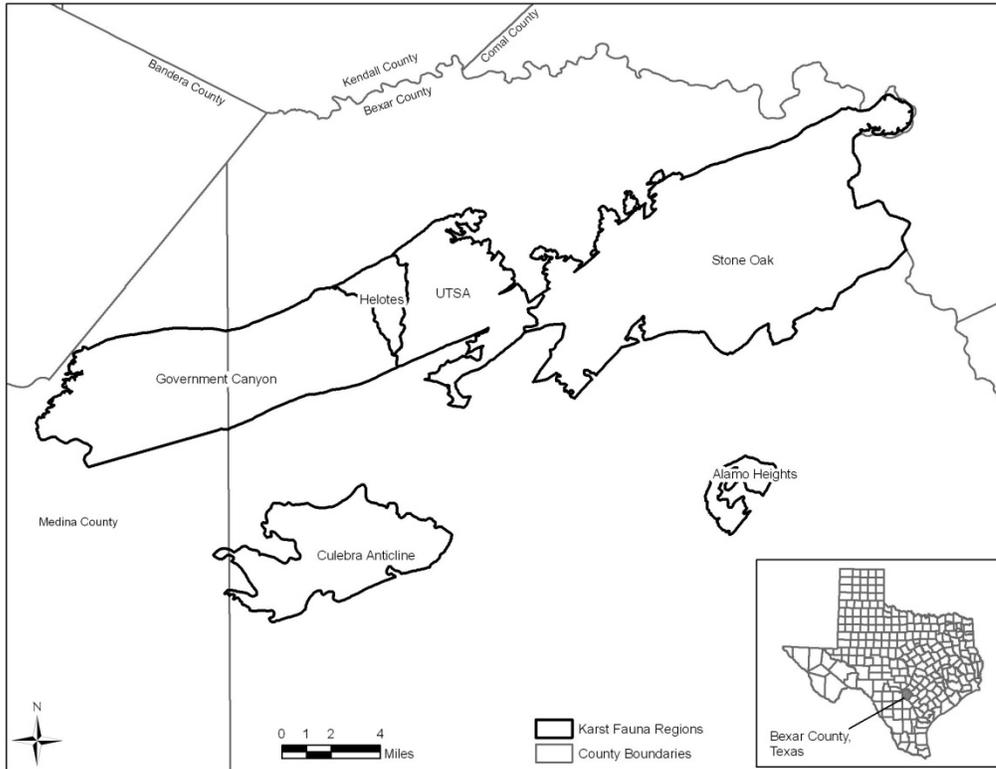
Robber Baron Cave meshweaver (*Cicurina baronia*)

Madla Cave meshweaver (*Cicurina madla*)

Braken Bat Cave meshweaver (*Cicurina venii*)

Government Canyon Bat Cave meshweaver (*Cicurina vespera*)

Figure 1. Karst Fauna Regions



List of acronyms:

American Museum of Natural History (AMNH)

California Academy of Science (CAS)

Field Museum of Natural History (FMNH)

Karst Fauna Region (KFR)

Government Canyon State Natural Area (GCSNA)

La Cantera Habitat Conservation Plan (LCHCP)

San Diego State University (SDSU)

Texas Cave Management Association (TCMA)

Texas Memorial Museum (TMM)

Texas Tech University (TTU)

Table 1. Known localities for the Bexar County listed karst invertebrates.

We have marked confirmed localities with a "X." Possible locations are marked with a "P." For *R. infernalis*, codes indicate subspecies (I for *infernalis*, E for *ewersi*, N for new, X for generalized species with unknown subspecies). When possible we have indicated where specimens are curated in the Specimen Location column. We have also indicated karst manager when possible. When there is no karst manager listed then the cave is privately owned. In addition to the referenced citations, data were derived from Service karst files, critical habitat designation (Service 2003), and the Texas Memorial Museum (TMM) database as of January 2007.

Cave Name	KFR	<i>R. exi</i>	<i>R. inf</i>	<i>B. venyivi</i>	<i>T. coke</i>	<i>N. micro</i>	<i>C. bar</i>	<i>C. mad</i>	<i>C. venii</i>	<i>C. vesp</i>	Karst Manager	Specimen Locations ¹
Robber Baron Cave	Alamo Heights				X		X				TCMA	<i>T. cokendolpheri</i> - TMM (Ubick and Briggs 2004); <i>C. baronia</i> - AMNH collection (Paquin and Dupérré 2009)
8-meter void #OB3	Alamo Heights						X					<i>C. baronia</i> - TTU
Braken Bat Cave (this is not Bracken Bat Cave in Comal County)	Culebra Anticline								X			<i>C. venii</i> - AMNH (Paquin and Dupérré 2009)
Caracol Creek Coon Cave	Culebra Anticline		N									<i>R. infernalis</i> - TMM
Game Pasture Cave No. 1	Culebra Anticline		N									<i>R. infernalis</i> - TMM
Isopit	Culebra Anticline		N									<i>R. infernalis</i> - TMM
King Toad Cave	Culebra Anticline		N									<i>R. infernalis</i> - TMM
Max and Roberts Cave	Culebra Anticline		N									<i>R. infernalis</i> - TMM
Obvious Little Cave	Culebra Anticline		N								TCMA	<i>R. infernalis</i> - TMM
Stevens Ranch Trash Hole Cave	Culebra Anticline		N									
Wurzbach Bat Cave	Culebra Anticline		N									<i>R. infernalis</i> - TMM

¹ In cases where we do not know where a specimens is curated, there is no information in the specimen location field for that (or those) species.

Cave Name	KFR	<i>R. exi</i>	<i>R. inf</i>	<i>B. venyivi</i>	<i>T. coke</i>	<i>N. micro</i>	<i>C. bar</i>	<i>C. mad</i>	<i>C. venii</i>	<i>C. vesp</i>	Karst Manager	Specimen Locations ¹
10K Cave	Government Canyon		X								GCSNA	<i>R. infernalis</i> - sight record only (Miller and Reddell 2005)
Bone Pile Cave	Government Canyon		I								GCSNA	<i>R. infernalis</i> - TMM collection
Canyon Ranch Pit	Government Canyon		X								LCHCP	Veni (2003)
Continental Cave	Government Canyon		I									<i>R. infernalis</i> - TMM collection
Creek Bank Cave	Government Canyon	X									GCSNA	
Dancing Rattler Cave	Government Canyon		I								GCSNA	<i>R. infernalis</i> - TMM (Miller and Reddell 2005)
Fat Man's Nightmare Cave	Government Canyon		I					X			LCHCP	<i>R. infernalis</i> - TMM; <i>C. madla</i> - TMM and SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)
Government Canyon Bat Cave	Government Canyon	X	I			X				X	GCSNA	<i>R. infernalis</i> - TMM; <i>N. microps</i> - AMNH (Ledford 2011); <i>C. vespera</i> - AMNH (Paquin and Dupérré 2009)
Hackberry Sink Cave	Government Canyon		I								GCSNA	<i>R. infernalis</i> - TMM (Miller and Reddell 2005)
Lithic Ridge Cave	Government Canyon	X	I					X			GCSNA	<i>R. infernalis</i> - TMM; <i>C. madla</i> - SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)
Lost Pothole	Government Canyon							X			GCSNA	<i>C. madla</i> - TMM (Paquin and Dupérré 2009)
Pig Cave (also known as HPD Cave and Javelina Cave)	Government Canyon	X	I					X			GCSNA	<i>R. infernalis</i> - TMM; <i>C. madla</i> - SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)
San Antonio Ranch Pit (Cave 2201 and Cave 2202)	Government Canyon	X	I	X				X			GCSNA	<i>R. infernalis</i> - TMM; <i>C. madla</i> - SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)

Cave Name	KFR	<i>R. exi</i>	<i>R. inf</i>	<i>B. venyivi</i>	<i>T. coke</i>	<i>N. micro</i>	<i>C. bar</i>	<i>C. mad</i>	<i>C. venii</i>	<i>C. vesp</i>	Karst Manager	Specimen Locations ¹
Scenic Overlook Cave	Government Canyon		I	X				X			LCHCP	<i>R. infernalis</i> - TMM; <i>C. madla</i> - SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)
Sure Sink	Government Canyon		X								GCSNA	<i>R. infernalis</i> sight record only (Miller and Reddell 2005)
Surprise Sink	Government Canyon		I					X			GCSNA	<i>R. infernalis</i> - TMM; <i>Neoleptoneta</i> specimen - TMM not identified to species (Ledford 2011); <i>C. madla</i> - SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)
Tight Cave	Government Canyon	X		X							GCSNA	
unnamed cave No. 1 in Iron Horse Canyon	Government Canyon											Veni (2003) reports that this cave has an unspecified listed species, but none have been confirmed.
unnamed cave No. 2 in Iron Horse Canyon	Government Canyon											Veni (2003) reports that this cave has an unspecified listed species, but none have been confirmed.
Sir Doug's Cave (also known as Cave 801 and Cave 802)	Helotes		I					P				<i>R. infernalis</i> - TMM
Christmas Cave	Helotes	X	I	X				X				<i>R. infernalis</i> - TMM; <i>B. venyivi</i> in TMM (Chandler and Reddell 2001); <i>C. madla</i> - TMM (Paquin and Dupérré 2009)
Helotes Blowhole	Helotes	X	I					X			LCHCP	<i>R. infernalis</i> - TMM; <i>C. madla</i> - TMM (Paquin and Dupérré 2009)
Helotes Hilltop Cave	Helotes	X		X				X			LCHCP	<i>B. venyivi</i> - AMNH (Chandler 1992); <i>C. madla</i> - SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)
Logan's Cave	Helotes	X	I									<i>R. infernalis</i> - TMM collection

Cave Name	KFR	<i>R. exi</i>	<i>R. inf</i>	<i>B. venyivi</i>	<i>T. coke</i>	<i>N. micro</i>	<i>C. bar</i>	<i>C. mad</i>	<i>C. venii</i>	<i>C. vesp</i>	Karst Manager	Specimen Locations ¹
Madla's Cave	Helotes		I					X			LCHCP	<i>R. infernalis</i> - TMM; <i>C. madla</i> - AMNH (Paquin and Dupérré 2009)
Madla's Drop Cave	Helotes		I					X				<i>R. infernalis</i> - TMM; <i>C. madla</i> - TMM (Paquin and Dupérré 2009)
Unnamed Cave 1/2 mile N. of Helotes	Helotes	X		X								<i>R. exilis</i> referred to in Barr (1974)
Unnamed Cave 1/2 mile NE of Helotes	Helotes			X								
Unnamed Cave Helotes Area	Helotes							X				<i>C. madla</i> - SHSU (Paquin and Hedin 2004, Paquin and Dupérré 2009)
40mm Cave	Stone Oak	X									Camp Bullis	
B-52 Cave	Stone Oak	X									Camp Bullis	
Backhole	Stone Oak	X									Camp Bullis	
Banzai Mud Dauber Cave	Stone Oak	X									Camp Bullis	<i>R. exilis</i> - TMM
Hairy Tooth Cave	Stone Oak	X										
Black Cat Cave	Stone Oak	X										
Blanco Cave	Stone Oak	X										<i>R. exilis</i> - TMM (SWCA 2006)
Boneyard Pit	Stone Oak	X									Camp Bullis	
Genesis Cave	Stone Oak		I									
Bunny Hole	Stone Oak	X									Camp Bullis	
Constant Sorrow Cave	Stone Oak	X									Camp Bullis	<i>R. exilis</i> - TMM
Cross the Creek Cave	Stone Oak	X									Camp Bullis	
Dos Viboras Cave	Stone Oak	X									Camp Bullis	

Cave Name	KFR	<i>R. exi</i>	<i>R. inf</i>	<i>B. venyivi</i>	<i>T. coke</i>	<i>N. micro</i>	<i>C. bar</i>	<i>C. mad</i>	<i>C. venii</i>	<i>C. vesp</i>	Karst Manager	Specimen Locations ¹
Eagles Nest Cave	Stone Oak	X									Camp Bullis	
Flying Buzzworm Cave	Stone Oak		E					P			Camp Bullis	immature <i>Cicurina</i> specimen – TMM –not identified to species (Veni and Associates 2008)
Headquarters Cave	Stone Oak	X	E					X			Camp Bullis	<i>C. madla</i> - TMM (Paquin and Dup��r�� 2009)
Hilger Hole	Stone Oak	X									Camp Bullis	
Hold Me Back Cave	Stone Oak	X									Camp Bullis	
Hornet's Last Laugh Pt	Stone Oak	X										
Isocow Cave	Stone Oak	X									Camp Bullis	
Kick Start Cave	Stone Oak	X										
Low Priority Cave	Stone Oak		E								Camp Bullis	
MARS Pit	Stone Oak	X									Camp Bullis	
MARS Shaft	Stone Oak	X									Camp Bullis	
Pain in the Glass Cave	Stone Oak	X									Camp Bullis	
Peace Pipe Cave	Stone Oak	X									Camp Bullis	<i>R. exilis</i> - TMM
Platypus Pit	Stone Oak	X									Camp Bullis	
Poor Boy Baculum Cave	Stone Oak	X									Camp Bullis	
Ragin' Cajun Cave	Stone Oak	X										
Root Canal Cave	Stone Oak	X									Camp Bullis	
Root Toupee Cave	Stone Oak	X									Camp Bullis	
Springtail Crevice Cave	Stone Oak	X										

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Strange Little Cave	Stone Oak	X									Camp Bullis	
Up the Creek Cave	Stone Oak	X									Camp Bullis	
Crownridge Canyon Cave	UTSA		I									<i>R. infernalis</i> - TMM
Feature #50	UTSA							X				<i>C. madla</i> - SDSU (Paquin and Hedin 2004, Paquin and Dupérré 2009)
Hills and Dales Pit	UTSA	X						X			LCHCP	<i>C. madla</i> - TMM (Paquin and Dupérré 2009)
John Wagner Ranch Cave No. 3 (synonymous with Marnock Cave)	UTSA	X	I					X			LCHCP	<i>R. exilis</i> - CAS (Barr 1974); <i>C. madla</i> - SDSU (Paquin and Dupérré 2009, Paquin and Hedin 2004)
Kamikazi Cricket Cave	UTSA	X	I									<i>R. infernalis</i> - TMM
La Cantera Cave No. 1	UTSA	X						X			LCHCP ²	<i>R. exilis</i> - TMM; <i>C. madla</i> - SDSU (Paquin and Hedin 2004, Paquin and Dupérré 2009)
La Cantera Cave No. 2	UTSA	X						X			LCHCP ²	
La Cantera Cave No. 3	UTSA							X			LCHCP ²	
Mastodon Pit	UTSA	X										
Mattke Cave	UTSA		I									<i>R. infernalis</i> - TMM
Porcupine Squeeze Cave	UTSA	P										Veni (2003) reports that this cave has an unspecified listed species, but none have been confirmed.
Robber's Cave	UTSA	X	I					X				<i>R. infernalis</i> - TMM; <i>C. madla</i> - TMM (Paquin and Dupérré 2009)
Scorpion Cave	UTSA		I									<i>R. infernalis</i> - TMM

² Cave where “incidental take” of karst invertebrates was allowed under a 10(a)(1)(A) permit.

Cave Name	KFR	<i>R. exi</i>	<i>R. inf</i>	<i>B. venyivi</i>	<i>T. coke</i>	<i>N. micro</i>	<i>C. bar</i>	<i>C. mad</i>	<i>C. venii</i>	<i>C. vesp</i>	Karst Manager	Specimen Locations ¹
Sunray Cave	UTSA	P										Veni (2003) reports that this cave has an unspecified listed species, but none have been confirmed.
Three Fingers Cave	UTSA	X	I									<i>R. infernalis</i> - TMM
Unnamed Cave 5 miles NE of Helotes	UTSA			X								<i>B. venyivi</i> - TMM (Chandler and Reddell 2001)
Young Cave No. 1	UTSA	X										
Breathless Cave	UTSA							X				<i>C. madla</i> - TMM
Margaritaville Cave	Uvalde County							P				<i>C. madla</i> - SDSU (Paquin and Hedin 2004, Paquin and Dupérré 2009). This location needs to be confirmed because it is very far from the known range.
Totals³ (93 Caves)		51 to 53	39	8	1	1	2	22 to 25	1	1		

³ The totals row at the bottom of the table gives a range of possible numbers, the lowest indicating confirmed sites and the highest indicating confirmed and possible sites.

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