

***Checklist of the Fauna & Flora of the
BIG SPRINGS RANCH
FOR CHILDREN
near Leakey, Real County, Texas***

**by tony gallucci
v.4.4.2 – 28 April 2010**

This is a work in progress based on current surveys and historical information. All currently known data has been added to this document, however much work remains, especially in the realms of identifying most invertebrates, fungi, and microbes; and in properly sorting the plants based on current taxonomy. The best known groups at this time are Butterflies, Odonates, Molluscs, Amphibians, Reptiles, Mammals, Birds, and Plants. Fish records are in flux until sampling is completed. Invertebrates other than those listed above are very incomplete at this time. Higher order levels are in the process of being sorted according to current systematic theory and as used here are only for tentative organizational purposes, especially as regards plants.

Summary

Record-keeping was initiated on 27 April 2006. Certain past records are included, especially those derived from ranch records, including hunting logs, wildlife surveys by professionals, and sightings of guests and staff, plus records of captives; significantly odd records, and unconfirmed or uncertain specific identities are appended as hypotheticals.

The Site

The Big Springs Ranch for Children is located in east-central Real County along the major headwaters of the Frio River, widely known as the Country of 1100 Springs. The

Ranch consists of over 7500 acres, and can be located on the Circle Bluff and Sabinal Canyon USGS Quadrangle maps. It lies in proximity to the H.E.B. Foundation Camp and Lost Maples State Natural Area to the north and east respectively. Research by a survey conducted in 2002 found that the Ranch overlays the Segovia and Fort Terrett Members of the Edwards Limestone formation. The contact zone between the Edwards and Upper Glen Rose aquifer layers occurs on the Ranch resulting in the many seeps and springs for which the area is known. These in turn give rise to endemism among plants and aquatic creatures isolated in the wet canyons.

The Hill Country is on a massive uplift known as the Edwards Plateau. Eroded by millennia of glacial outfall, followed by recurrent climate shifts, the deeply cut canyons and topography have resulted in an area renowned for its endemism and extreme diversity. It is the ultimate North American faunal and floral melting pot, having a mixing zone of Eastern, Western, Northern and Tropical species unrivaled elsewhere on this continent. Elements of the Blacklands, the Subtropical Thorn-scrub, the Southern Plains, and the Chihuahuan Desert all are easily found here, as well as numerous species found nowhere else. The only bird endemic to a single state of the US is also found here, as are numerous small endemic vertebrates, notably salamanders and turtles. The Ranch offers an intriguing slice of this faunal and floral nirvana, with canyons littered with typical Hill Country trees, shrubs and flowering plants, which in turn attract typical birds and insects of the region.

This survey is into its fourth year but is still relatively new, and will be updated as time passes to reflect increased knowledge of the flora and fauna of this fine location. Many thanks to Oma Bell Perry for the stewardship her family undertook of this fine piece of property, and her donation of

the property to the Hill Country Youth Ranch to further its goals of helping children in need. To Gary, Carol and Michael Priour for their founding and continued management of the Ranch, and for offering me the opportunity to understand its natural features, and to the many staff and residents who continue to provide stewardship of this endangered range of habitats. And to these participants in the regular faunal and floral surveys for their time, effort, expense and expertise: Brandon Best, Ken Cave, Tom Collins, Marcy Dorman, Mike Gray, Kathy and Mitch Heindel, Greg Lasley and Cheryl Johnson, Mike Overton, Jason Penney, Susan Sander, Bob Thomas, Tripp Davenport, Zac Loman, Jill Wussow, Terry Hibbitts, Joshua Rose, Garrett Whitten, and Derek Muschalek. Texas A&M University has had a survey crew for Golden-cheeked Warblers, under the direction of Michael Morrison, which provided additional information, including regular reports from Zachary Loman (Humboldt State University), Jill Wussow (Texas A&M University), Melissa Lackey (Texas A&M University), and Laura Stewart (Texas A&M University). These participants in the first biological survey of the ranch cannot be underestimated or underthanked for their initial contribution to the understanding of Ranch flora: Bill Carr, Lee Elliott, Gay Gilbert, Bea Harrison, Jim Harrison, Jackie Poole, Susan Sander, and Tom Taylor. Special thanks to Marshall Johnston for lending his much needed expertise to vegetative survey field trips on 28 April 2007, 15 September 2007, 26 April 2008, and 25 April 2009. Folks with a history at the Ranch who have provided much valuable information and discussion relating to this checklist include Ken Cave, Dean Mitchell, Susi Mitchell, Tripp Davenport, Courtney Ward, John Gross, Sue Gross and Ken Wade. Students of the Ed Brune Charter School have conducted regular bird surveys under the direction of Tripp Davenport, including Rudy Fuentes, Destini Evans, Kyle Millegan, Thomas Whitely, Amanda Pina, Carlos

Valenzuela, and Robert Hammond in 2009; and Chantelle Boatright, John Ramirez, Bre'Ann Hansen, and Ashley Sanchez in 2008. Their work has been added to the eBird database. We are also most grateful to a number of online contributors, who via direct communication or identifications on Bugguide.net have helped clarify the identifications of a number of species: Bob Behrstock, Keith Bayless, Norm Woodley, Matt Bertone, Eric Eaton, Peter Diaz, and Tim Loh.

The Big Springs Ranch for Children and the Hill Country Youth Ranch are residential foster family facilities housing up to 130 children and young adults from orphaned families and abusive situations. The Priours have spent their lives trying to enrich the lives of these emotionally impoverished children. For more information on the Ranches check out our presence online at <http://www.youth-ranch.org>.

The Hill Country Youth Ranch, the parent facility, is located in Ingram, Kerr County, and a similar Checklist of the Flora and Fauna is available from that location.

Codes and Classification

- * Feral, Introduced, Adventitious, Invasive and/or Exotic, but free-ranging
- ** Exotic, but captive or cultivated
- *** Native, but captive or cultivated
- ☀ Breeding or nesting on the property
- ▣ Migrant species, including local winter movements – birds and insects
- ∞ Threatened, Endangered, specially protected, and organizationally designated species other than native game animals and all native bird species which are protected by state and federal law
- Endemic to Real County, the Hill Country, Edwards Plateau or Central Texas

- ⊙ Documented by photograph (photographers: Greg Lasley, Mike Overton, Jason Penney, Tom Collins, Ken Cave, Tony Gallucci, Susan Sander, Mitch Heindel, Bob Rasa, Sue Wiseman, LoSharris Cunningham, Tripp Davenport, LeAnn Sharp, Stephen Ramirez, Zac Loman, Jill Wussow)
- s Species (notably plants) identified by one authority, but later questioned by another authority
- 📽 Documented by film
- 🎧 Documented by audio-recording and/or sonogram
- ¥ Voucher collected; deposited in a professional or academic collection
- Ψ Remains only, possibly fossil, if so, likely Pleistocene
- ⊗ Fossilized, likely Cretaceous
- ☠ Poisonous, toxic, venomous, allergen-producing
- Invertebrate identifications by experts listed in acknowledgments
- Plant identifications by Susan Sander
- 🌿 Plant identifications/confirmations by Marshall Johnston
- Identified via old photos in addition to modern records
- F Species attracted to feeder trees
- ❖ Ubiquitous, endemic in medical parlance
- Information derived from old file information
- 👤 Information via knowledgeable Ranch staff, largely Dean and Susi Mitchell, and from collections (and classroom denizens; and herbarium; plus library native aquarium) of Tripp Davenport, Ed Brune Charter High School Science teacher, and surveys conducted by his students for eBird' also Michael Priour and Ken Wade
- Information via references as listed
- Checkbox
- cf. See also/closest form: I believe this to be the correct identification but am not sure, and cannot

confirm based on the material available
 nr. Near: It is *not* this species, but this is the closest relative, in a superficial sense, that i can assign it to
 [] Bracketed species are considered hypothetical – ones for which identification is not 100% positive, for which observers are not certain, or for which documentation is lacking
 NCR New County Record

KINGDOM
PHYLUM/SUBPHYLUM/SUPERCLASS/CLASS/INFRACLASS/ORDER/SUBORDER
FAMILY □ Common Name, *Scientific name*, Codes

There has been in use a *Bird Checklist of the Big Springs Ranch* that was printed by Ranch Management. In initial research for this project it was determined that this list was entirely co-opted from the neighboring property of the H.E.B. Foundation Camp, which has a long history of keeping bird records. For the purposes of this survey, which is based on actual records for BSRC, this other checklist has been ignored, although its value as a predictor of potential species cannot be dismissed. However, none of the records appearing on that list appear on this one.

There is also a hunting brochure for the Ranch that lists available game. The actual presence of these species on the Ranch has not yet been verified.

Location Details
 TX: Real County, Big Springs on the Frio River, Big Springs Ranch for Children, 9 miles N of Leakey E off US83 (location bounded by HEB Camp/Laity Lodge and Lost Maples State Natural Area), gate: 29.8437dN 099.6508dW, 1900' elev.

Survey Details

When used for faunal designations, numbers 1-3 are used any time information shows up in these historical contexts. A number is also appended from 4 on indicating the first time a species is encountered on subsequent surveys and field trips. For floral designations, all plants identified on the 2002 Survey are marked as number 3, and then the first subsequent encounter is appended.

- ① From hunting lease logs kept by management of Big Springs Ranch for Children
- ② From an old resident's diary kept in the Management Files of Big Springs Ranch for Children, and from information provided in correspondence and interviews with Ranch residents and staff, including Dean and Susi Mitchell, Tripp Davenport, Michael Priour, and Ken Wade
- ③ From the 7 May 2002 Botanical Bio-blitz Report. Author of the report undesignated. Participants: Bill Carr (San Antonio), Lee Elliott (San Antonio), Gay Gilbert (Kerrville), Bea Harrison (Brazoria), Jim Harrison (Brazoria), Jackie Poole (Austin), Susan Sander (Center Point), and Tom Taylor (Barksdale)
- ④ From initial visit 27-28 April 2006: Tony Gallucci (Ingram)
- ⑤ New from the 20 August 2006 BSRC Faunal & Floral Survey: Ken Cave (Sabinal), Marcy Dorman (Kerrville), Tony Gallucci (Ingram), Kathy and Mitch Heindel (Utopia), Cheryl Johnson (Austin), Greg Lasley (Austin), Mike Overton (Concan), Susan Sander (Center Point), Bob Thomas (Austin)
- ⑥ New from the 24 September 2006 BSRC Faunal & Floral Survey: Ken Cave (Sabinal), Tom Collins (Center Point), Tony Gallucci (Ingram), Mike Gray (Center Point), Mike Overton (Concan), Jason Penney (Carrizo Springs), Susan Sander (Center Point)
- ⑦ New from the 2 October 2006 Nature Quest Fauna and Flora Field Trip, led by Ken Cave (Sabinal) and Mike Overton (Concan)
- ⑧ New from the 29 October 2006 BSRC Faunal & Floral Survey. Tony Gallucci (Ingram)
- ⑨ New from the 3 February 2007 BSRC Faunal & Floral Survey: Brandon Best (Lubbock), Tom Collins (Center Point), Tony Gallucci (Ingram), Mitch Heindel (Utopia), Jason Penney (Uvalde)
- ¹⁰ New from the 1 April 2007 BSRC Faunal & Floral Survey: Tony Gallucci (Ingram)
- ¹¹ New from the 22 April 2007 BSRC Faunal & Floral Survey: Tom Collins (Center Point), Marcy Dorman (Kerrville), Tony Gallucci (Ingram)
- ¹² New from visit 26 April 2007: Tony Gallucci (Ingram)
- ¹³ New from visit 27 April 2007: Tony Gallucci (Ingram)
- ¹⁴ New from the 28 April 2007 Nature Quest Hill Country Vegetation Field Trip, led by Tony Gallucci (Ingram) and Susan Sander (Center Point); participants: Judy Beach, Steve Beach, Bobbi Benson, Don Benson, Judy Bloomquist, Marvin Bloomquist, Emily Bone, Elizabeth Bowerman, Julia Crowder, Carol Graves, John Graves, Glenda Janca, Cynthia Johnson, Marshall Johnston, Donna Lehr, Barbara

Lowenthal, Carol Miserlian, Mary Helen Quinn, Ron Sprouse, Janie Thomas, Johnny Thomas, Russ Walker, J.D. Wendeborn, Marie Wendeborn, Clyde Zilliox, Steve Zilliox

¹⁵ New from the 29 April 2007 Nature Quest Hill Country Birds Field Trip, led by Tony Gallucci (Ingram) and Robert Benson (Corpus Christi), and a River Region Springs Field Trip, led by Ken Cave (Sabinal); participants: Michael Brewster, Susan Cooper, Bud Davis, Phyllis Doherty, Jane Henry, Bruce Houff, Vicki Houff, David Lane, Linda Payne, Lori Markoff, S. Howard Payne, Barbara Pennington, Mickey Pennington, Marilyn Rhodes, Trudy Williams

¹⁶ New from the 6 May 2007 BSRC Faunal & Floral Survey: Tony Gallucci (Ingram)

¹⁷ New from the 2 June 2007 BSRC Faunal & Floral Survey: Tony Gallucci (Ingram), Kathy Heindel (Utopia), Mitch Heindel (Utopia)

¹⁸ New from visit 23 June 2007 visit to BSRC: Tony Gallucci (Ingram), David Gillespie (Kerrville), Donna Gillespie (Kerrville), Eric Lowenthal (Kerrville), Barbara Lowenthal (Kerrville), Dean Mitchell (Big Springs Ranch), Susi Mitchell (Big Springs Ranch), Lawrence Walker (Kerrville)

¹⁹ New from 11 September 2007 visit: Tony Gallucci (Ingram)

²⁰ New from the Texas A&M University Golden-cheeked Warbler Survey, March – June 2007. Michael Morrison, Supervisor (College Station), Zachary Loman (Humboldt State University); season summary included 35i/26pr Golden-cheeked Warblers & 3 Black-capped Vireos

²¹ New from the 15 September 2007 Nature Quest Hill Country Vegetation Field Trip, led by Susan Sander (Center Point), Marshall Johnston (Austin) and Tony Gallucci (Ingram); and a Nature Quest Big Springs Odonates Field Trip led by Tony Gallucci (Ingram); participants: Laura Hansen (Ft. Hood), Stevie Ray Hansen (Ft. Hood), Sue Wiseman, Charles Wiseman, Kathy McCormack (Round Rock), George Kerr (Austin), Bob Rasa (Uvalde), Ron Sprouse, Bob Houck, Janie Houck.

²² New from the 16 September 2007 Nature Quest Hill Country Birds Field Trip, led by Tony Gallucci (Ingram), and a River Region Springs Field Trip, led by Ken Cave (Sabinal) and Sky Lewey; and a tg post-trip visit; participants included: LeeAnn Sharp, Joyce, Cynthia, Sharon Brown, Mr. and Mrs. Steve Zilliox.

²³ New from 20 October 2007 visit: Tony Gallucci (Ingram)

²⁴ New from 13 November 2007 visit: Tony Gallucci (Ingram)

²⁵ New from 18 November 2007 BSRC Faunal & Floral Survey: Tony Gallucci (Ingram)

²⁶ New from 20 November 2007 visit: Tony Gallucci (Ingram)

²⁷ New from 4 December 2007 visit: Tony Gallucci (Ingram)

²⁸ New from 8 January 2008 visit: Tony Gallucci (Ingram)

²⁹ New from 4 February 2008 visit: Tony Gallucci (Ingram)

³⁰ New from 2007-2008 season notes: Zachary Loman (Humboldt State University), Julie Wussow (Texas A&M University)

³¹ New from 19-20 March 2008 trip: Zac Loman (Humboldt State University), Joe Szewczak (Humboldt State University)

³² New from 30 March 2008 visit: Chrissy Coronado (Ingram)

³³ New from 1 April 2008 trip: Zac Loman (Humboldt State University) & Texas A&M University Survey Crew; Tony Gallucci (Ingram)

³⁴ New from 17 April 2008 visit: Tony Gallucci (Ingram)

³⁵ New from 23 April 2008 survey: Zac Loman (Humboldt State University)

³⁶ New from 24-25 April 2008 visit: Tony Gallucci (Ingram)

³⁷ New from the 26 April 2008 Nature Quest Hill Country Vegetation Field Trip, led by Susan Sander (Center Point), Marshall Johnston (Austin), Tony Gallucci (Ingram), and Zac Loman (Humboldt State University); participants were Kristy McWhorter (Leakey), Trudy Williams (leakey), Susi Bell (Ingram), Ron Bell (Ingram), John Siemssen, Janet Siemssen, Joan Mukkerise, Tripp Davenport (Uvalde)

³⁸ New from the 27 April 2008 Nature Quest Hill Country Birds Field Trip, led by Tony Gallucci (Ingram), Mitch Heindel (Utopia) and Tripp Davenport (Uvalde), and a River Region Springs Field Trip, led by Ken Cave (Sabinal); participants included Susi Bell (Ingram), Ron Bell (Ingram), Barbara Pennington (Uvalde), David Mills, Dawn Mills, Don Wiley (Belton), Dave Smith, Helen Smith, Irene Toosi, Mr. Toosi, Jean White (Ben Wheeler), Judy Schaefer (Utopia), Judy Sharp (Houston), Karen Whatley (Deer Park), LaSharris Cunningham (Temple), Lynette Holtz, Lynn Moak,

Mark Holtz, Nancy Hill, Pat Richardson (Georgetown), Rayburn Hill, Richard Wolpert, Susan Blanchard (Cypress), Susan Moak, Tom Cunningham (Temple), Victor Domhoff (Sebasco Estates, Maine), Virginia Domhoff (Sebasco Estates, Maine), Mr. Smith, Helen Smith

³⁹ New from 1 April 2008 survey: Tripp Davenport (Uvalde) and students of the Ed Brune Charter School.

⁴⁰ New from 26-30 April 2008 surveys: Zachary Loman (Humboldt State University), Julie Wussow (Texas A&M University), and Melissa Lackey (Texas A&M University)

⁴¹ New from 15 May 2008 encounter: Will Wolfe, Carl Harris, photographs by Dean and Susi Mitchell

⁴² New from June 2008 visit: Tony Gallucci (Ingram), Marcy Dorman (Kerrville)

⁴³ New from the Texas A&M University Golden-cheeked Warbler Survey, February – June 2008. Michael Morrison, Supervisor (College Station), Zachary Loman (Humboldt State University), Julie Wussow (Texas A&M University) & Melissa Lackey (Texas A&M University); season summary included 38i/21pr w/juv Golden-cheeked Warblers & 6i/2pr Black-capped Vireos

⁴⁴ New from 29 July 2008 visit: Tony Gallucci (Ingram)

⁴⁵ New from 19 August 2008 visit: Tony Gallucci (Ingram)

⁴⁶ New from 21 September 2008 Nature Quest birding and springs field trips led by Tony Gallucci (Ingram), Mitch Heindel (Utopia), Bob Behrstock (Ash Canyon, AZ) and Ken Cave (Sabinal); participants: Anthony Sharp, Andrea Hill, Barbara Pennington, Mickey Pennington, Dell Hood, Gerin

Hood, Allen Hill, Harry Evans, Herb Smith, Jane Derrick, Kelly Hill, LeAnn Sharp, Lowell Hill, Ray Hodson, Roy Hodson, Susan Thrower, Susan Zimmerman and Trudy Florence.

⁴⁷ New from 7 October 2008 visit: Tony Gallucci (Ingram)

⁴⁸ New from 22 October 2008 visit: Tony Gallucci (Ingram)

⁴⁹ New from 16 November 2008 visit: Tony Gallucci (Ingram)

⁵⁰ New from 2 December 2008 visit: Tony Gallucci (Ingram)

⁵¹ New from 10 February 2009 visit: Tony Gallucci (Ingram)

⁵² New from 7 April 2009 visit: Tony Gallucci (Ingram)

⁵³ New from 15 April 2009 visit: Susan Sander (Center Point), David Bamberger (Blanco), Dean & Susi Mitchell (Big Springs Ranch)

⁵⁴ New from 25 April 2009 Nature Quest birding and vegetation field trips led by Tony Gallucci (Ingram), Mitch Heindel (Utopia), Anthony Sharp (Utopia), Marshall Johnston (Austin) and Susan Sander (Center Point); participants included Mary Parker, Mike Brewster, Roz Hodson, Ray Hodson, Odie Asscherick, Marie Asscherick, David Sharp, Trudy Williams, Juanita Price & Trang Doan

⁵⁵ New from 26 April 2009 Nature Quest birding trip with Tony Gallucci (Ingram), Ken Cave (Uvalde) and Ron Sprouse (Uvalde)

⁵⁶ New from Spring 2009 observations by Susi & Dean Mitchell (Big Springs Ranch)

⁵⁷ New from Spring 2009 observations by Tripp Davenport (Uvalde) and Brune School Science students

⁵⁸ New from Spring 2009 observations by Zac Loman, Jill Wussow, Melissa Lackey, Texas A&M University Golden-cheeked Warbler Survey Crew, February – June 2009

⁵⁹ New from Spring 2009 observations by John and Sue Gross (Big Springs Ranch)

⁶⁰ New from Spring 2009 observations by Tripp Davenport (Big Springs Ranch/Uvalde)

⁶¹ New from 12 May 2009 birding/photography trip with Tripp Davenport (Big Springs Ranch/Uvalde) and Stephen Ramirez (San Marcos)

⁶² New from 17 May 2009 survey/photography/film trip with Tony Gallucci (Ingram)

⁶³ New from 19 May 2009 survey trip with Zac Loman (Humboldt State University, Dr. Joe Szewczak (Humboldt State University), Dr. Susan Townsend

⁶⁴ New from 24 May 2009 survey/photography trip with Tony Gallucci (Ingram), Zac Loman (Humboldt State University), Jill Wussow (Texas A&M University)

⁶⁵ New from 26 May 2009 survey/photography trip with Tripp Davenport (Big Springs Ranch/Uvalde)

⁶⁶ New from 28 May 2009 survey/photography trip with Tripp Davenport (Big Springs Ranch/Uvalde)

⁶⁷ New from 29 May 2009 survey trip with Tony Gallucci (Ingram)

⁶⁸ New from 30 May 2009 survey/photography trip with Tony Gallucci (Ingram), Tripp Davenport (Big Springs Ranch/Uvalde), Zac Loman (Humboldt State University), and Jill Wussow (Texas A&M University)

⁶⁹ New from 6 June 2009 survey trip with Tony Gallucci (Ingram), Joshua Rose (McAllen/Massachusetts), Tripp Davenport (Big Springs Ranch/Uvalde), Terry Hibbitts (Camp Wood)

⁷⁰ New from 2008 Surveys ending 15 September 2008 Ed Brune High School Science Class Survey at the high school with Tripp Davenport (Big Springs Ranch/Uvalde)

⁷¹ New from 9 June 2009 visit with Tony Gallucci (Ingram)

⁷² New from 15 June 2009 survey/photography trip with Tripp Davenport (Big Springs Ranch/Uvalde)

⁷³ New from 19 June 2009 survey/photography trip with Tripp Davenport (Big Springs Ranch/Uvalde)

⁷⁴ New from 21 June 2009 survey/photography trip with Tripp Davenport (Big Springs Ranch/Uvalde)

⁷⁵ New from 22 June 2009 west side Ranch survey/photography trip with Tripp Davenport (Big Springs Ranch/Uvalde)

⁷⁶ New from 21 June 2009 observations by Dean & Susi Mitchell (Big Springs Ranch)

⁷⁷ New from 21 June 2009 observations by Zac Loman (Humboldt State University), and Jill Wussow (Texas A&M University)

⁷⁸ New from 26 June 2009 visit with Tripp Davenport (Uvalde)

⁷⁹ New from 9 July 2009 visit with Tripp Davenport (Uvalde)

⁸⁰ New from 4 August 2009 visit with Tony Gallucci (Ingram)

⁸¹ New from 6 October 2009 visit with Tony Gallucci (Ingram)

⁸² New from 8 December 2009 visit with Tony Gallucci (Ingram)

⁸³ New from 29 December 2009 with Tripp Davenport (Uvalde)

⁸⁴ New from 2 February 2010 visit with Tony Gallucci (Ingram)

⁸⁵ New from 2 April 2010 with Tripp Davenport (Uvalde)

⁸⁶ New from April 2010 observations by Tripp Davenport (Uvalde)

⁸⁷ New from 6 April 2010 visit with Tony Gallucci (Ingram)

⁸⁸ New from 22 April 2010 visit with Tony Gallucci (Ingram)

⁸⁹ New from 23 April 2010 Nature Quest birding and dragonfly field trips led by Tony Gallucci (Ingram), with Carrie Sample, Lillian Sheffield, Jeanne Taylor, Marjorie Raley, Don and Sylvia Wiley, W.T. Pendleton, Ron and Susi Bell, Deb and Ken McKinley, Vickie and Bruce Houff, and Debra Boutwell

⁹⁰ New from 24 April 2010 Nature Quest birding and dragonfly field trips led by Tony Gallucci (Ingram) and Bain Walker (Utopia), with Jim, Jackie and Justin Declue, Mike and Judy Jenson, Diana Calderella, and Mary Bridges

⁹¹ New from 25 April 2010 post-Nature Quest survey with Tony Gallucci (Ingram) and Derek Muschalek (Yorktown)

THE CHECKLIST

ANIMALIA – Animals

INCERTAE SEDIS

Unknown Placement (? Annelida)

- Bloodworm ¹⁵

Subkingdom EUMETAZOA

Superphylum LOPHOTROCHOZOA

Phylum ANNELIDA

Class CLITELLATA

Subclass HIRUDINEA

Infraclass EUHIRUDINEA

Group ARHYNCHOBDELLIDA

Order GNATHOBDELLA

- North American Medicinal Leech/Wi'-gi-e , *Macrobdella decora* ¥⊙⁶⁶

NEMATOMORPHA – Nematode Worms

GORDIIDAE – Horsehair Worm Family

- Horsehair Worm, *Gordius* sp. □⊙⊙

MOLLUSCA – Snails, Clams, Mussels & Oysters

PELECYPODA – Clams, Mussels, Oysters, and Scallops

Class BIVALVIA – Clams, Mussels, Oysters, and Scallops

Subclass PALEOHETERODONTA

Order UNIONOIDA – Native Freshwater Mussels

UNIONIDAE – Native Freshwater Mussel Family

- Yellow Sandshell, *Lampsilis teres anodontoides* ¥⊙⁵³

CORBICULIDAE – River Clam Family

- Asian Clam, *Corbicula fluminea* *⊙

OSTREIDAE – Oyster Family

- Oyster sp., *Exogyra/Ostrea* sp. ⊙¹⁰

GASTROPODA – Snails and Conchs

INCERTAE SEDIS

- Cretaceous Snail sp. ⊙¥⊙¹¹

Subclass ORTHOGASTROPODA Ponder & Lindberg, 1996 – Early Gastropods

Infraclass APOGASTROPODA

Superorder CAENOGASTROPODA Cox 1960

Order SORBEOCONCHA Ponder & Lindberg 1997

Suborder CERITHIIMORPHA/DISCOPODA P. Fischer 1884

Superfamily CERITHIOIDEA Férussac, 1822

TURRITELLIDAE – Turret Snail Family

- cf. *Turritella* sp. ⊙¥⊙¹⁴

PLEUROCERIDAE – Freshwater Turret Snail Family

- Edwards Plateau Endemic Spring Snail, *Elimia comalensis comalensis* ¥⁵⁴

Superorder NERITOPSINA Cox & Knight, 1960

Order NERITOIDEA Lamarck 1809

Superfamily HELICINOIDEA

HELICINIDAE – Globesnail Family

- White Globesnail, *Helicina/Olygyra orbiculata* ¥⊙

Superorder HETEROBRANCHIA J.E. Gray 1840

Order PULMONATA Cuvier in Blainville 1814 –

Pulmonate Gastropods

Suborder BASOMMATOPHORA Keferstein in Bronn, 1864 – Freshwater Pulmonate Snails

HELICODISCIDAE – Helix-whorled Snail Family

- Singley's Helical Snail, *Helicodiscus* cf. *singleyanus* ¥¹⁷

Superfamily LYMNAEOIDEA Rafinesque 1815

PHYSIDAE – Left-handed Pond Snail Family

- Common Pondsail sp., *Physa* sp. ¥¹⁸ ⑧

Superfamily PLANORBOIDEA Rafinesque 1815

PLANORBIDAE – Ramshorn Snail Family

- Distorted Ramshorn Snail, *Planorbella anceps anceps* ①¹⁷
- Flat Pondsail, *Gyraulus parvus* ¥¹⁵

Suborder EUPULMONATA Haszprunar & Huber 1990

Infraorder STYLOMMATOPHORA A. Schmidt 1856 – Land Snails

UROCOPTIDAE – Mitre Snail Family

- Roemer's Mitre Snail, *Metastoma roemeri roemeri* ¥⁹
- Edwards Plateau Mitre Snail, *Holospira goldfussi* ¥⁹
- Texas Mitre Snail, *Microceramus texanus* ¥¹⁶

Subinfraorder ORTHURETHRA

Superfamily PUPILLOIDEA Turton 1831

PUPILLIDAE – Pill Snail Family

- Pupillid sp. ¥¹¹

Subinfraorder SIGMURETHRA

Superfamily POLYGYROIDEA Pilsbry 1894

POLYGYRIDAE – Whorled Snail Family

- Texas Whorled Snail, *Polygyra texasiana* ssp. (*P.t. texasiana*/*P.t. texasensis*) ¥⁹

- Graceful Whorled Snail, *Polygyra gracilis* ¥¹⁷

Superfamily ACHATINOIDEA

SUBULINIDAE – European Garden Snail Family

- Decollated Snail, *Rumina decollata* *¹⁹

Order MESOGRASTROPODA – Aquatic Gastropods

THIARIDAE – Trumpet Snail Family

- cf. Malaysian Trumpet Snail sp., *Melanoides* sp. nr. *tuberculatus* [appears introduced since Fall 2008; may have frozen out in winter 2009-2010, none seen in April 2010] *⁵⁴

Phylum ARTHROPODA – Jointed Animals

Subphylum CRUSTACEA

Class MALACOSTRACA

Order AMPHIPODA

ARMADILLIDIIDAE – Pillbug Family

- Black/Spotted Pillbug, cf. *Armadillium vulgare* ⑦

Order DECAPODA – Crabs, Lobsters and Crayfish

- Scud Shrimp, *Gammarus* (also^{***})

Infraorder ASTACIDEA

Superfamily ASTACOIDEA

CAMBARIDAE – North American Crayfish Family

- Speckled Crayfish sp. (also^{***})
- Red Crayfish sp. (also^{***}) ④
- Brown Crayfish sp. (also^{***}) ④
- Blue and Red Crayfish sp. ⁶⁷

CHILOPODA – Centpedes

Order SCUTIGEROMPORPHA – House Centpedes

SCUTIGERIDAE – House Centipede Family

- House Centipede, *Scutigera* cf. *coleoptrata* *⁹ ⑤

Order LITHOBIOMORPHA – Rock Centipedes

- Rock Centipede sp. ¹⁷

Order SCOLOPENDROMORPHA – Tropical Centipedes

SCOLOPENDRIDAE – Tropical Centipede Family

- Texas Red-headed Centipede, *Scolopendra heros castaneiceps* ☠️👁️👉²⁰

DIPLOPODA – Millipedes

SPIROBOLIDA – Millipedes

- Large Brown Millipede 🕒¹¹
- Little Brown and Gold Banded Millipede 🕒³⁷
- Short Thick Iron Gray Banded Millipede 🕒³⁸

Subphylum CHELICERATA

Class ARACHNIDA – Spiders

Order SCORPIONES – Scorpions

BUTHIDAE – Bark Scorpion Family

- Edwards Plateau Striped Bark Scorpion, *Centruroides vittatus* ☠️👉👈
- Balcones Uplands Cave Scorpion, *Vaejovis redellii* 🕒☠️¹⁸

Subphylum CHELICERATA

Class ARACHNIDA

Order OPILIONES – Harvestmen

PHALANGIIDAE – Harvestmen/Daddy Longlegs Family

- Dark-kneed Granddaddy Longlegs/Harvestman. *Leiobunum townsendi* ¹⁸
- Halloween Harvestman, cf. *Dalquestia formosa* ¹⁸

ARANEAE – Spiders

- Small Orange Web Spider sp. ¹¹
- Teal-butt Black Spider sp. 🕒¹¹
- Tiger-striped Spider sp. ¹⁴
- Little Gray Wolf-like Spider sp. 🕒¹⁷

- Gray Rock Spider sp. ¹⁸

ARANEOMORPHAE – True Spiders

ENTELEGYNES

LYCOSIDAE – Wolf Spider Family

- Rabid Wolf Spider, *Rabidosa rabida* ¹¹

PISAURIDAE – Nursery Web Spider Family

- Large Tiger-striped Wolf-like Spider sp., cf. *Dolomedes* sp. (or Fishing Spider, *Arctosa* sp.) 🕒⁶⁶

TETRAGNATHIDAE – Long-jawed Orb Weaver Family

- Long-jawed Orb-weaver sp. ¹¹

ARANEIDAE – Orb Weaver Family

- Red Orb Weaver, *Neoscona* cf. *crucifera* 🕒²⁶

OXYOPIDAE – Lynx Spider Family

- Green Lynx Spider, *Peucetia viridans* 🕒

THERIDIIDAE – Comb-footed Spider Family

- Southern Black Widow, *Latrodectus mactans* ☠️⁷⁵

SICARIIDAE – Six-eyed Spiders

- Brown Recluse, *Loxosceles reclusa* 🕒☠️¹²

SALTICIDAE – Jumping Spider Family

- Bold Jumper sp., *Phidippus audax*-complex sp. 🕒¹⁷

AGELENOIDEA – Funnel Web Spiders

AGELENIDAE – Funnel Web Spider Family

- Funnel Web Spider sp. 🕒⁹⁰

Suborder MYGALAMORPHAE

Superfamily THERAPHOSOIDEA

THERAPHOSIDAE – Tarantula Family

Subfamily THERAPHOSINAE

- Tarantula sp., *Aphonopelma* sp. ²⁰

Subclass ACARINA – Mites & Ticks

Order ACARI – Mites & Ticks

Suborder ACARIFORMES – Mites

[Suborder MESOSTIGMATA – Mites]

TROMBICULIDAE – Harvest Mites/Chiggers

- Chigger/Red Harvest Mite -- *Trombicula alfreddugesi* ♂¹⁶

PYROGLYPHIDAE – Dust Mite Family

- House Dust Mite, *Dermatophagoides pteronyssinus* ❖

PTERYGOSOMIDAE – Lizard Mite Family

- cf. American Lizard Mite, cf. *Geckobia texana* {on *Cophosaurus*} ³⁸

Suborder TROMBIDIFORMES

DEMODICIDAE – Follicle Mite Family

- Human Eyelash Follicle Mite, *Demodex folliculorum* *❖
- Human Seba Follicle Mite, *Demodex brevis* *❖
- Canine Follicle Mite/Demodectic Mange Mite, *Demodex canis* *❖

HYDRACARINA

ARRENURIDAE – Water Mite Family

- Water Mite, *Arrenurus planus* ❖⊙⑤

Class INSECTA – Insects

Order PHTHIRAPTERA

PTHIRIDAE – Crab Lice

- Crab Louse, *Phthirus pubis* ①

DIPTERA – Flies

- Shoreline Fly sp. ¹⁶
- Green Blowfly sp. ¹⁰

- Gray-striped Fly sp. ¹⁶
- Deer Fly sp. ¹⁸
- Fatbutt Dot-winged Fly sp. ⊙☞²⁶
- Gunmetal-bottle Fly ²¹
- Large Black Fly, poss. Mexican Cactus Fly, *Copestylum mexicanum* ²²

NEMATOCERA – Midge Flies

- Midge Fly sp. ⁹⁰

TABANOMORPHA

ATHERICIDAE – Watersnipe Fly Family

- Big Springs Watersnipe Fly, *Suragina concinna* ⊙□⁶⁹

RHAGIONIDAE – Snipe Fly Family

- Snipe Fly sp.? ⊙⁷²

TIPULIDAE – Crane Fly Family

- Crane fly sp. ¹⁰
- Ghost Crane fly, *Brachypremna dispellens* ¹⁶
- Picture-winged Crane fly sp. ⊙⁶⁶

TACHINIDAE – Horsefly Family

- Yellow-butt Flower Fly, *Belvosia bifasciata* ⊙⁶⁹

CULICIDAE – Mosquito Family

- Mosquito sp. ¹¹
- Treehole Mosquito sp. ¹¹

STRATIOMYIDAE – Soldier Fly Family

- Soldier Fly, *Hedriodiscus binotatus* ⊙⑥

SYRPHIDAE – Syrphid Fly Family

- Yellow-and-black Small Syrphid sp. ⑤

SARCOPHAGIDAE – Flesh Fly Family

- Large Gray Striped Fly sp. ¹⁷

BOMBYLIIDAE – Beefly Family

- Yellow-abdomen Clear-winged Beefly sp. ^⑤
- Dark-abdomen Brown-wing-marked Beefly sp. ^⑤
- Picture-winged Fly sp. ^⑥

ASILIDAE – Robber Fly Family

- Large Robber Fly sp., cf. *Efferia* sp. ^{⑥8}
- Medium Robber Fly sp., cf. *Efferia* sp. ^{⑦4}
- White Tail-banded Robber Fly sp., cf. *Efferia* sp. nr. *nerax* ^{⑦2}

HYMENOPTERA – Wasps, Ants and Bees

- Black-and-White Bee sp. ^⑤
- Red and Gold Wasp sp. on Mealy Sage ^{①6}
- Red and Black Wasp on Woolly-white ^{①6}
- Little Striped Bee sp. ^{②6}
- Red Fronted Wasp ^{⑥8}

SPHECIDAE – Thread-waisted Wasp Family

- Yellow-and-Black Mud Dauber sp. ^⑤
- Tiny Orange-and-Black Thread-waisted Wasp sp. ¹³
- Medium Orange-waisted Wasp ¹⁷
- Velvet Blue Mud Dauber, *Chalybion californicum* ¹⁷
- Yellow-legged Black Mud Dauber sp. ¹⁷

CRABRONIDAE -- Organ Pipe Mud Dauber Family

- Organ Pipe Mud Dauber, *Tripoxylon politum* ¹⁷

POMPILIDAE – Spider Wasp Family

- Large Tarantula Hawk sp., cf. *Pepsis* sp. ^{⑧⑤}
- Small Orange-antennaed Gunmetal Blue Spider Hawk sp., *Pepsis/Hemipepsis/Entypus* sp. ^{⑧11}

VESPIDAE - -True Wasp Family

- Red Wasp, *Polistes carolina* ^{①⑧⑤}
- Paper Wasp, *Polistes exclamans* ^{⑧22}
- Blackbutt Red Wasp sp. (poss. Southeastern Paper Wasp/alt. Northern Paper Wasp or Florida Paper Wasp), *Polistes* sp. cf. *P. metricus* (alt. *P. fuscatus/annularis*) ^{⑧15}
- Southern Yellowjacket, *Vespula squamosa* ^{⑧17}

APIDAE – Bee Family

- European Honeybee, *Apis mellifera* ^{⑧⑤}
- Bumblebee sp., *Bombus/Xylocopa* sp. ^{①⑧17}

HALICTIDAE – Metallic Bee Family

- Metallic Green Halictid Bee sp. ^{⑧⑤}

FORMICIDAE – Ant Family

- Imported Fire Ant, *Solenopsis invicta* ^{*①⑧⑥}
- Native Fire Ant, *Solenopsis xyloni* ^{①⑧11}
- Black-fuzzy-butt Orange Honeycomb Limestone Ant, cf. *Camponotus* sp. ^{⑧①5}
- Road Burrow Ant sp. ¹⁵
- Texas Red Harvester Ant, *Pogonomyrmex barbatus molefaciens* ^{⑧17}

ORTHOPTERA – Grasshoppers, Crickets and Katydid

ACRIDIDAE – Horned Grasshopper Family

- Green-winged Acridid sp. ^⑤
- Orange Band-winged Grasshopper sp. ^⑤
- Small Brown and White Grasshopper sp. ^{①11}
- Carolina Grasshopper, *Dissosteira carolina* ^⑤
- Gray Bird Grasshopper, *Schistocerca nitens* ^{⑧22}
- Sand Grasshopper sp. ¹⁷
- Red Grasshopper ²¹
- Blue-legged Grasshopper ²²

Subfamily GOMPHOCERINAE—Slant-faced Grasshoppers

- Montezuma Slant-faced Grasshopper, *Syrbula montezumae* ⁴⁶

Subfamily OEDIPODINAE – Band-winged Grasshopper

- Panther-spotted (Wrinkled) Grasshopper, *Hippiscus ocelote* ⁴⁶

TETRIGIDAE – Pygmy Grasshopper Family

- Pygmy Grasshopper sp. undetermined ⑤
- Sand-colored Pygmy Grasshopper sp., *Paratettix cucullatus* ⑥⁶⁹

TETTIGONIIDAE – Katydid Family

- Tettigoniid sp. undetermined ⑤

Subfamily CONOCEPHALINAE – Cone-headed Meadow Katydids

- Meadow Katydid sp., *Conocephalus* sp. ①¹⁷
- Broad-tipped Conehead, *Neoconocephalus triops* ②²⁵

Subfamily PHANEROPTERINAE – False Katydids

- Thread-legged Katydid sp., *Arethaea* sp. ①¹⁷
- Truncated True Katydid/Central Texas Leaf Katydid, *Paracyrtophyllus robustus* Caudell (1906) ¹⁸

GRYLLIDAE – Cricket Family

- Field Cricket sp., *Gryllus* sp. ⑤
- Pygmy Cricket sp. ²⁴

OECANTHIDAE – Tree Cricket Family

- Tree Cricket sp., *Oecanthus* sp. ¹⁴

DICTYOPTERA – Roaches and Mantids

MANTIDAE – Mantis Family

- Mantis sp. ⑥

BLATELLIDAE – Cockroach Family

- Pale-bordered Field Cockroach, *Pseudomops septentrionalis* ①¹⁷
- Madagascar Hissing Cockroach, *Gromphadorina portentosa* ^{**24}

Order HOMOPTERA -- Hoppers

- Tiny Metallic Chocolate-brown Planthopper ¹²

Order HEMIPTERA – True Bugs

COCCIDAE – Softscale Insect Family

- Cochineal Bug, *Dactylopius confusus* ⑥

TEXIIDAE – Bug Family

- Texiid sp. ⑥

CYDNIDAE – Burrowing Bug Family

- Cydnid sp., *Melanaethus* sp. ⑦

PYRRHOCORIDAE – Red Bug Family

- Pyrrhocorid sp. ⑦

PHYMATIDAE – Ambush Bug Family

- Phymatid sp. □^⑦

REDUVIIDAE – Assassin Bug Family

- Reduviid sp., *Saica* sp. □^⑦

NABIDAE – Damsel Bug Family

- Nabid sp., *Nabis* sp. □^⑦

ANTHOCORIDAE – Minute Pirate Bug Family

- Anthocorid sp., *Orius* sp. □^⑦

NOTONECTIDAE – Backswimmer Family

- Notonectid sp., *Notonecta* sp. □⑦

CORIXIIDAE – Water Boatman Family

- Water Boatman sp., *Hesperocorixa* sp. □⑦

NAUCORIDAE – Creeping Water Bug Family

- Naucoridae – *Pelocoris* sp. □¥⑦

GERRIDAE – Water Strider Family

- Gerrid Strider sp., *Gerris* cf. *remigis* ☞□⑤

VELIIDAE – Water Skimmer Family

- Veliid Strider sp., *Rhagovelia* sp. □⑤

COREIDAE – Leaf-footed Bug Family

- Striped Thistle Bug, *Leptoglossus phyllopus* ⑤
- Thistle Bug sp., *Leptoglossus* sp. II ☉⑥ (see photos)
- Large Thistle Bug sp., cf. *Leptoglossus* sp. III ②②
- Striped Coreid, *Hypselonotus punctiventris* ☉②②

MIRIDAE – Plant Bug Family

- cf. Scarlet *Sophora* Plant Bug sp., cf. *Lopidea* sp. ☉①①

CERCOPIDAE – Spittle Bug Family

- Spittle Bug sp. ①⑥

LYGAEIDAE – Seed Bug Family

- Milkweed Bug sp., *Lygaeus/Oncopeltus* sp. ①⑦
- Large Milkweed Bug, *Oncopeltus fasciatus* ☉①⑦

PENTATOMIDAE – Stinkbug Family

- Once-stabbed Black Stinkbug sp. ☉①⑦
- Gray Stinkbug sp., *Euschistus* sp. ☉①⑦

ALYDIDAE – Broad-headed Bug Family

- Big-headed Bug, *Megalotomus quinquespinosus* (Say) □⑥

BELOSTOMATIDAE

- Giant Water Bug sp., *Lethocerus* sp. ☞③⑧

Suborder HETEROPTERA**CIMICIDAE – Bedbug Family**

- Bedbug, *Cimex lenticularis* ¥③⑥

Order COLEOPTERA – Beetles

- Yellow-and-Black Flower Beetle on Slender-bristle Thistle ☉①⑤

COCCINELLIDAE – Ladybird Beetle Family

- Multicolored Asian Ladybird Beetle, *Harmonia axyridis* Pallas * □☞⑥
- Spotless Ladybird Beetle, *Cycloneda sanguinea* ☉⑥⑥

BUPRESTIDAE – Metallic Woodborer Family

- Yellow-bordered Flower Buprestid, *Acmaeodera flavomarginata* (Gray) □☞☉⑥
- Black and Yellow Mottled Buprestid, *Acmaeodera* sp. nr. *pulchella* ☉⑥⑥
- Small Black Buprestid with four white spots, *Acmaeodera* sp. ☉①⑧
- Bronzy Buprestid sp. ☉①⑦
- Bluish Buprestid sp. ☉①⑦

CICINDELIDAE – Tiger Beetle Family

- Spotted Tiger Beetle, *Cicindela punctulata punctulata* Olivier □⑥
- Green-dotted Tiger Beetle, *Cicindela politula* ④⑥

DYTISCIDAE – Predaceous Diving Beetle

- ☐ Sunburst Diving Beetle, *Thermonectus marmoratus* (Hope, 1832) ☉☞☐☉
- ☐ Big Green Diving Beetle, *Cybister* sp. ☉⁷⁵

CARABIDAE – Ground Beetle Family

- ☐ Blue-bordered Ground Beetle, *Calosoma lecontei* Csiki ☐☉☉
- ☐ Large Black Ground Beetle sp. ☉¹²
- ☐ Medium Black Ground Beetle sp.¹³

SCARABIDAE – Scarab Beetle Family

- ☐ Green Fig/June Beetle, *Cotinis* sp. ☉
- ☐ Small Coppery *Cotinis*-like Scarab Beetle sp. ☉¹⁶
- ☐ Dark Flower Beetle sp., *Euphoria* sp. nr. *sepulcralis* ☉¹⁷
- ☐ Masked Chafer sp., *Cyclocephala* sp. ☉¹⁷
- ☐ Dung Beetle, *Onthophagus gazella* ☉⁶⁰
- ☐ Ox Beetle, *Strategus aloeus* ②

CURCULIONIDAE – Weevil Family

- ☐ Frostweed Weevil sp. ☉¹⁷

CHRYSOMELIDAE – Leaf Beetle Family

Subfamily GALERUCINAE

Tribe ALTICINI

- ☐ Shining Flea Beetle, *Asphaera lustrans* (Crotch, 1873) NCR ☉¹⁷

Tribe LUPERINI

- ☐ Howard's Spotted Cucumber Beetle, *Diabrotica undecimpunctata howardi* Barber 1947 ☞²⁵

incertae sedis

- ☐ Unknown Spotted Cucumber-like Beetle ⁶²

CERAMBYCIDAE – Long-horned Beetle Family

- ☐ Cerambycid sp. ☉

- ☐ Mesquite Borer, *Placosternus difficilis* (Chevrolat, 1862) ☉⁴⁶
- ☐ Tripp's Big Prionid, *Nothopleurus lobigenis* ☉⁶⁵

ELYDIDAE – Beetle Family

- ☐ Elydid Beetle sp. ☉

LEPIDOPTERA – Butterflies and Moths

- ☐ Tent Caterpillar sp. on Pecan ☞☉
- ☐ Tent Caterpillar sp. on Arizona Walnut ²²
- ☐ Tent Caterpillar sp. on Yellow Buckeye ¹¹
- ☐ 12 sp. Unidentified Moth ☉
- ☐ Caterpillar sp. ☉¹⁷

GEOMETRIDAE – Geometer Moth Family

- ☐ Shoreline Geometer Moth sp. I ¹⁶

PYRALIDAE – Pyralid Moth Family

- ☐ Gold Pyralid moth sp. ☉
- ☐ Red Pyralid moth sp. ⁹⁰
- ☐ Pearly White Pyralid Moth sp. ¹¹
- ☐ Ironweed Root Moth ¹⁶

ARCTIIDAE – Arctiid Moth Family

- ☐ Arctiid moth sp. ☉
- ☐ Tiger Moth sp. [caterpillar] ☉³⁸

YPONOMEUTIDAE – Webworm Moth Family

- ☐ *Ailanthus* Webworm Moth, *Atteva punctella* ☞☉²¹

NOCTUIDAE – Noctuid Moth Family

- ☐ Day-flying Moth, *Hypocala andromoena* ☞☐⁸
- ☐ Underwing Moth sp., *Catocala* sp. ¥¹⁷
- ☐ Grapevine Epimenis, *Psychomorpha epimenis* ⁹⁰

SATURNIIDAE – Silkmoth Family

- Peigler's Buckmoth, *Hemileuca peigleri* ☞ Ⓞ ¥²⁴
- Luna Moth, *Actias Luna* ³³
- Silk Moth sp. [caterpillar] Ⓞ³⁸

SPHINGIDAE – Hawkmoth Family

- Large Day-flying Sphingid Ⓞ
- White-lined Sphinx, *Hyles lineata* Ⓞ¹²

ZYGAENOIDEA – Skeletonizers

ZYGAENIDAE – Skeletonizer Family

- Orange-fringed Black Skeletonizer, *Pyromorpha* cf. *caelebs* ⁹¹

HESPERIIDAE – Skipper Family

Subfamily PYRGINAE – Spread-wing Skippers

- Northern Cloudywing, *Thorybes pylades* (Scudder) Ⓞ □ Ⓞ⁵
- Duskywing sp. Ⓞ²³
- Horace's Duskywing, *Erynnis horatius* (Scudder & Burgess) Ⓞ □ Ⓞ⁵
- Juvenal's Duskywing, *Erynnis juvenalis juvenalis* (Fabricius) Ⓞ¹⁷
- Tatus (Mournful) Duskywing, *Erynnis tristis tatus* (W.H. Edwards) □ Ⓞ⁵
- Funereal Duskywing, *Erynnis funeralis* (Scudder & Burgess) □ Ⓞ Ⓞ⁵
- Meridian Duskywing, *Erynnis meridianus meridianus* Bell NCR Ⓞ^(15?) ⁶⁸
- Common Sootywing, *Pholisora catullus* Ⓞ⁷³
- False Duskywing, *Gesta invisus* (Butler & H. Druce) ²¹
- Longtail Skipper, *Urbanus proteus proteus* (Linnaeus) NCR Ⓞ²²
- Dorantes Longtail, *Urbanus dorantes dorantes* (Stoll) NCR ☞ Ⓞ²⁴
- Sickie-winged Skipper, *Ancylodes (tamemund) thraso* (W.H. Edwards) NCR Ⓞ²¹

- Desert Checkered-Skipper, *Pyrgus philetas* W.H. Edwards □ ☞ Ⓞ⁵
- Common/White Checkered-Skipper sp., *Pyrgus communis/albescens* (Grote) Plotz ¥ ☞ Ⓞ □ Ⓞ⁶
- Tropical Checkered-Skipper, *Pyrgus oileus* (Linnaeus) □⁷
- Texas Powdered-Skipper, *Systasea pulverulenta* (R. Felder) Ⓞ²²

Subfamily HESPERIINAE – Grass Skippers

- Clouded Skipper, *Lerema accius* (J.E. Smith) □ ☞ Ⓞ⁵
- Eastern Dun Skipper, *Euphyes vestris metacomet* (Harris) Ⓞ □ Ⓞ⁶
- Southern Broken-Dash, *Wallengrenia otho otho* (J.E. Smith) □ Ⓞ Ⓞ⁵
- Eastern Sagem, *Atalopedes campestris huron* (W.H. Edwards) ☞ Ⓞ □ Ⓞ⁶
- Mexican Whirlabout, *Polites vibex praeceps* (Scudder) ²⁵
- Fiery Skipper, *Hylephila phileas phileas* (Drury) Ⓞ¹⁷
- Least Skipper, *Ancyloxypha numitor* (Fabricius) ⁸⁹
- Southern Skipperling, *Copaeodes minima* (W.H. Edwards) ☞ ²³
- Orange Skipperling, *Copaeodes aurantiaca* (Hewitson) Ⓞ²¹
- Nysa Roadside-Skipper, *Amblyscirtes nysa* W.H. Edwards Ⓞ □ Ⓞ⁵
- Celia's Roadside-Skipper, *Amblyscirtes celia* Skinner □ Ⓞ Ⓞ⁵
- Bronze Roadside-Skipper, *Amblyscirtes aeneus aeneus* W.H. Edwards Ⓞ⁶⁸
- Green Skipper, *Hesperia viridis* (W.H. Edwards) Ⓞ ⁹¹
- Eufala Skipper, *Lerodea eufala* (W.H. Edwards) Ⓞ ☞ □ Ⓞ⁵
- Julia's Skipper, *Nastra julia* (H.A. Freeman) Ⓞ ☞ ¹⁷
- Ocola Skipper, *Panoquina ocola* (W.H. Edwards) Ⓞ ☞ ¹⁷

Subfamily MEGATHYMINAE – Giant Agave Skippers

- Strecker's (prob)/Yucca (poss.) Giant-Skipper, *Megathymus strecker* (Skinner)/ *M. yuccae* (Boisduval & LeConte) ⁹⁰

PAPILIONIDAE – Swallowtail Family

Subfamily PAPILIONINAE

- Pipevine Swallowtail, *Battus philenor philenor* (Linnaeus) ☉☞⑤
- Spicebush Swallowtail, *Papilio troilus troilus* Linnaeus ²²
- Eastern Black Swallowtail, *Papilio polyxenes asterius* Cramer ☐⑤
- Eastern Tiger Swallowtail, *Papilio glaucus glaucus* Linnaeus ☉☐⑤
- Two-tailed Swallowtail, *Papilio multicaudatus* W.F. Kirby ☉⑩
- Giant Swallowtail, *Papilio cresphontes* Cramer ☉

PIERIDAE -- Sulphur Family

Subfamily COLIADINAE

- Southern Dogface, *Zerene cesonia cesonia* (Stoll) ☉☞☞⑤
- Orange Sulphur, *Colias eurytheme* Boisduval ☞☉☞⑦
- Yellow-Angled Sulphur, *Anteos maerula* (Fabricius) ☐⑤
- White-Angled Sulphur, *Anteos clorinde* (Godart) ⁴⁴
- Speckled Cloudless Sulphur, *Phoebis sennae marcellina* (Cramer) ☉☀☞☞☐⑤
- Large Orange Sulphur, *Phoebis agarithe agarithe* (Boisduval) ☞☞☐⑤
- Lyside Sulphur, *Kricogonia lyside* (Godart) ☉
- Little Yellow, *Pyrisitia lisa lisa* (Boisduval & Le Conte) ☞☉⑤
- Sleepy Orange, *Abaeis nicippe* (Cramer) ☞☉⑤
- Mexican Yellow, *Eurema mexicana* (Boisduval) ☞☐☉⑥
- Dainty Sulphur, *Nathalis iole* Boisduval ☞☉⑤

Subfamily PIERINAE

- Checkered White, *Pontia protodice* (Boisduval & LeConte) ☉☞☞⑩

- Great Southern White, *Ascia monuste monuste* (Linnaeus 1764) ²⁶
- Texan Falcate Orangetip, *Anthocaris midea texana* Gatrell ^⑩

LYCAENIDAE – Gossamerwing Family

Subfamily LYCAENINAE – Coppers, Hairstreaks and Blues

Tribe EUMAEINI -- Hairstreaks

- Texan Olive Hairstreak, *Callophrys (Mitoura) gryneus castalis* (W.H. Edwards) ☐☉⑤
- Siva Juniper Hairstreak, *Mitoura gryneus siva* ☉⁶⁹
- Plains Gray Hairstreak, *Strymon melinus franki* Field ☞☐☉⑤
- Texas Oak Hairstreak, *Fixsenia (Satyrium) ontario (favonius) autolyclus* (W.H. Edwards) ☞¹⁵
- Mallow Scrub-Hairstreak, *Strymon istapa istapa* (Reakirt) ☞☉☐⑤
- Dusky-Blue Groundtreak, *Calycopis isobea* (Butler & H. Druce) ²¹

Tribe POLYOMMATINI – Blues

- Zachaeina (Ceraunus) Blue, *Hemiargus ceraunus zachaeina* (Butler & H. Druce) ☐⑤
- Reakirt's Blue, *Echinargus isola alce* (W.H. Edwards) ☐☞☉⑤
- Mexican Cassius Blue, *Leptotes cassius cassidula* (Boisduval) [NCR] ⁶²

NYMPHALIDAE – Brushfoot Family

Subfamily LIBYTHEINAE – Snouts

- Southwestern Snout, *Libytheana carinenta larvata* (Strecker) ☞☞☐⑤

Subfamily DANAINAE – Monarchs

- Western Queen, *Danaus gilippus thersippus* (H.W. Bates) Ⓞ⑤
- Monarch, *Danaus plexippus* (Linnaeus) Ⓞ☞☞☞⑦

Subfamily HELICONIINAE – Longwings

- Western Gulf Fritillary, *Agraulis vanillae incarnata* (Riley) Ⓞ☞☞☞⑤
- Variegated Fritillary, *Euptoieta claudia* (Cramer) ☞☞Ⓞ⑤
- Zebra Heliconian, *Heliconius charitonius vazquezae* Comstock & Brown ☞⑥

Subfamily NYMPHALINAE -- Brushfoots

- Question Mark, *Polygonia interrogationis* (Fabricius) Ⓞ⑪
- Adjutrix/Bordered Patch, *Chlosyne lacinia adjutrix* Scudder Ⓞ☞☞☞⑤
- Silvery (Drusus) Checkerspot, *Chlosyne nycteis drusius* (W.H. Edwards) Ⓞ④⑥
- Crescent/Checkerspot sp., ☞⑧
- Phaon Crescent, *Phyciodes phaon* (W.H. Edwards) Ⓞ☞☞⑥
- Vesta/Graphic Crescent, *Phyciodes graphica vesta* (W.H. Edwards) ☞☞Ⓞ☞⑤
- Southern Pearl Crescent, *Phyciodes tharos distincta* Bauer ¥☞☞Ⓞ②⑤
- Texan Crescent, *Anthanassa texanus texana* (W.H. Edwards) Ⓞ☞☞⑰
- Common Buckeye, *Junonia coenia* Hübner Ⓞ☞☞⑤
- American Red Admiral, *Vanessa atalanta rubria* (Fruhstorfer) Ⓞ☞☞⑤
- Painted Lady, *Vanessa cardui* (Linnaeus) ☞⑧
- American Lady, *Vanessa virginiensis* (Drury) ☞☞⑥
- Yellowed White Peacock, *Anartia jatrophae luteipicta* Fruhstorfer Ⓞ☞☞⑤

Subfamily LIMENITIDINAE – Admirals

- Arizona Sister, *Adelpha eulalia* (Doubleday & Hewitson) ☞☞☞⑤

- Red-spotted Purple, *Limenitis arthemis astyanx* (Fabricius) Ⓞ⑳

Subfamily BIBLIDINAE – Bluewings

- Amymone Mestra, *Mestra dorcas amymone* (Ménétriés) Ⓞ☞☞☞⑤

Subfamily CHARAXINAE – Leafwings

- Goatweed Leafwing, *Anaea (troglodyta) andria* (Guerin-Meneville) ⑲

Subfamily APATURINAE – Emperors

- Empress Antonia, *Asterocampa celtis antonia* (W.H. Edwards) ⑭
- Texan Tawny Emperor, *Asterocampa clyton texana* (Skinner) ⑶⑨

Subfamily SATYRINAE -- Satyrs

- Red Satyr, *Megisto rubricata rubricata* (W,H, Edwards) Ⓞ⑪
- Little Wood Satyr, *Megisto cymela cymela* (Cramer) ⑪
- Common (Texan) Wood-Nymph, *Cercyonis pegala texana* (W.H. Edwards) ⑲

Subclass PTERYGOTA

Infraclass NEOPTERA

Superorder DICTYOPTERA

Order ISOPTERA -- Termites

- Black Ground Termite ⑳⑦

EPHEMEROPTERA – Mayflies

- Large Tiger-striped Ephemeropteran Nymph ☞⑮

EPHEMERIDAE – Common Mayfly Family

- Tiny Mottle-winged Mayfly sp. Ⓞ⑫
- Yellow Mayfly sp. ⑰

Order NEUROPTERA – Nerve-winged Insects
Suborder PLANIPENNIA – Lacewings, Antlions and Owlflies

CHRYSOPIDAE – Lacewing Family

- Green Lacewing sp. ⑥

MYRMELEONTIDAE – Antlion Family

- Antlion sp. 14

ASCALAPHIDAE – Owlfly Family

- MacLeay's Owlfly, *Ululodes macleayanus* ①¹⁷
- Tripp's Owlfly, cf. *Ascaloptynx appendiculata* ①⁶⁵

Suborder RAPHIDIODEA

RAPHIDIIDAE – Snakefly Family

- Snakefly sp., *Agulla* sp. [nymph] ①³⁸

TRICHOPTERA – Caddisflies

- Mainspring Caddisfly sp. (also^{***}) ①[¥] 15

ODONATA – Dragonflies and Damselflies

ZYGOPTERA – Damselflies

PROTONEURIDAE – Threadtail Family

- Orange-striped Threadtail, *Protoneura cara* 64

CALOPTERYGIDAE – Jewelwing Family

- American Rubyspot, *Hetaerina americana* (Fabricius) ①[¥] ①^⑤
- Smoky Rubyspot, *Hetaerina titia* [NCR] 67

LESTIDAE – Spreadwing Family

- Great Spreadwing, *Archilestes grandis* (Rambur) NCR ①^⑤

COENAGRIONIDAE – Pond Damsel Family

- Citrine Forktail, *Ischnura hastata* ①^⑤
- Fragile Forktail, *Ischnura posita* 17
- Desert Firetail, *Telebasis salva* (Hagen) ①^⑤
- Arroyo Bluet, *Enallagma praevarum* (Hagen) ①^⑤
- Double-striped Bluet, *Enallagma basidens* Calvert ①^⑤
- Orange Bluet, *Enallagma signatum* 17
- Stream Bluet, *Enallagma exsulans* ①¹⁷
- Familiar Bluet, *Enallagma civile* ③
- Kiowa Dancer, *Argia immunda* (Hagen) ①^⑤
- Coppery Dancer, *Argia cuprea* (Hagen) ①^⑤
- Aztec Dancer, *Argia nahuana* Calvert ①^⑤
- Big Springs Dancer sp., *Argia* sp. [cf. *nahuana*?] ①^⑤
- Springwater Dancer, *Argia plana* Calvert ①^⑤
- [Comanche Dancer, *Argia barretti*] 68
- Violet Dancer, *Argia fumipennis violacea* (Hagen) ①^⑤
- Blue-ringed Dancer, *Argia sedula* (Hagen) ①^⑤
- Golden-winged Dancer, *Argia rhoadsi* (Calvert) 86
- Powdered Dancer, *Argia moesta* ⑦
- Dusky Dancer, *Argia translata* ①^⑦

ANISOPTERA – Dragonflies

- Large Anisopteran Nymph ①¹⁵

AESHNIDAE – Darner Family

- Common Green Darner, *Anax junius* (Drury) ①^⑤
- Springtime Darner, *Basiaeschna janata* 85

GOMPHIDAE – Clubtail Family

- Eastern Ringtail, *Erpetogomphus designatus* Hagen in Sélys ①^⑤
- Sulphur-tipped Clubtail, *Gomphus militaris* Hagen in Sélys ①^⑤
- Pronghorn Clubtail, *Gomphus graslinellus* ①⁶⁵
- [cf. Cobra Clubtail, *Gomphus* cf. *vastus* [NCR] ③]
- Five-striped Leaftail, *Phyllogomphoides albrighti* ①⁶⁹
- Four-striped Leaftail, *Phyllogomphoides stigmatus* ①¹⁷

- [Dragonhunter, *Hagenius brevistylus*](#) Sélys ☉⑤
- Flag-tailed Spinyleg, *Dromogomphus spoliatus* ☉¹⁴
- Black-shouldered Spinyleg, *Dromogomphus spoliatus* ☉
68

CORDULIDAE – Emerald Family

- Dot-winged-complex Baskettail, *Epitheca cf. petechialis* ☉⑩
- Prince Baskettail, *Epitheca princeps* ☉¹⁷

LIBELLULIDAE – Skimmer Family

- Jade-striped Sylph, *Macrothemis inequiunguis* Karsch NCR ¥☉☞☐⑤
- Ivory-striped Sylph, *Macrothemis imitans leucozona* Calvert NCR ¥☉☞⑥
- Red-tailed Pennant, *Brachymesia furcata* ☉⁷⁴
- Banded Pennant, *Celithemis fasciata* ☉⑥
- [Roseate Skimmer, *Orthemis ferruginea*](#) (Fabricius) ¥☉☞⑤
- [Comanche Skimmer, *Libellula comanche*](#) Calvert ¥☉⑤
- [Flame Skimmer, *Libellula saturata*](#) Uhler ☉⑤
- [Neon Skimmer, *Libellula croceipennis*](#) Sélys ⑤
- Twelve-spotted Skimmer, *Libellula pulchella* Drury ⑤
- Widow Skimmer, *Libellula luctuosa* ☉¹⁶
- Filigree Skimmer, *Pseudoleon superba* ☉⁶⁰
- [Common Whitetail, *Plathemis lydia*](#) (Drury) ☉⑤
- Red Rock Skimmer, *Paltothermis lineatipes* NCR ¥☉☞⑥
- [Eastern Pondhawk, *Erythemis simplicicollis simplicicollis*](#) (Say) ☉⑤
- [Blue Dasher, *Pachydiplax longipennis*](#) (Burmeister) ☉⑤
- Band-winged Dragonlet, *Erythrodiplax umbrata* (Linnaeus) ☉⑤
- [Swift Setwing, *Dythemis velox*](#) Hagen ¥☉⑤
- [Checkered Setwing, *Dythemis fugax*](#) Hagen ☉⑤
- Black Setwing, *Dythemis nigrescens* Calvert ⑤

- [Pale-faced Clubskimmer, *Brechmorhoga mendax*](#) (Hagen) ¥☉☞☞☞⑤
- Eastern Amberwing, *Perithemis tenera* ¹⁷
- Slough Amberwing, *Perithemis domitia* NCR ¥☉¹⁸
- [Wandering Glider, *Pantala flavescens*](#) (Fabricius) ⑤
- [Spot-winged Glider, *Pantala hymenaea*](#) (Say) ⑤
- [Black Saddlebags, *Tramea lacerata*](#) Hagen ☉⑤
- [Red Saddlebags, *Tramea onusta*](#) ☉⑤
- Autumn Meadowhawk, *Sympetrum vicinum* ☞⑧
- [Variegated Meadowhawk, *Sympetrum corruptum*](#) ☉⑤

Superclass OSTEICHTHYS – Bony Fishes

Class ACTINOPTERYGII – Ray-finned Fishes

Order SILURIFORMES

ICTALURIDAE – Catfish Family

- Blue Catfish, *Ictalurus furcatus* (also ***) ☞②
- Channel Catfish, *Ictalurus punctatus* ☐²
- Black Bullhead, *Ameiurus melas* ☐

Superorder PROTACANTHOPTERYGII

Order SALMONIFORMES

ONCORHYNCHIDAE/SALMONIDAE – Trout Family

Subfamily SALMONINAE

- Rainbow Trout, *Oncorhynchus mykiss* *☐

Order CYPRINIFORMES

CYPRINIDAE – Minnow Family

- Central Stoneroller, *Campostoma anomalum* (also ***) ☞³⁸
- [Grass Carp, *Ctenopharyngodon idella* *⑤]
- Common Carp, *Cyprinus carpio* *⑤
- Mexican Tetra, *Astyanax mexicanus* (also ***) ⑤
- Roundnose Minnow, *Dionda episcopa* (also ***) ☞⑨
- Minnow sp. I, ⑤
- Minnow sp. II, ⑨
- Edwards Plateau Shiner *Cyprinella lepida* (also ***) ☞☉¹⁷
- Redfin Shiner, *Cyprinella lutrensis* (also ***) ☞☉³⁸

- Blacktail Shiner, *Cyprinella venusta* (also^{***}) 📖⊙⑧
- Texas Shiner, *Notropis amabilis* (also^{***}) 📖¹⁷
- cf. Sand/Mimic Shiner, cf. *Notropis* cf. *ludibundus/volucellus* (also^{***}) 📖👉²⁴
- Shiner sp. VI, *Notropis* sp. ⊙⑨
- Shiner sp. VII ¹⁶
- cf. Weed [Blackspot] Shiner, *Notropis* cf. *texanus* (also^{***}) 👉³⁸
- Smallmouth Buffalo, *Ictiobus bubalus* ²²

Order CYPRINODONTIFORMES

POECILIDAE – Livebearer Family

- cf. Largespring Mosquitofish, *Gambusia* cf. *geiseri* (poss. *G. affinis*) (also^{***}) 📖⑤

Order PERCIFORMES

Suborder PERCODEI

Superfamily PERCODEA

CENTRARCHIDAE – Sunfish Family

- Redbreast Sunfish, *Lepomis auritus* */^{***} 📖⊙⑤
- Bluegill, *Lepomis macrochirus* (also^{***}) 📖⑤
- Redear Sunfish, *Lepomis microlophus* ¹¹
- Longear Sunfish, *Lepomis megalotis* ⑤
- Green Sunfish, *Lepomis cyanellus* (also^{***}) □
- Largemouth Bass, *Micropterus salmoides* □⁴
- Guadalupe Bass, *Micropterus treculi* □⊙□

Order PERCIFORMES

PERCIDAE – Perch Family

- Greenthroat Darter, *Campostoma anomalum* (also^{***}) 👉②

CICHLIDAE – Cichlid Family

- Rio Grande Cichlid, *Cichlasoma cyanoguttatum* (also^{***}) 👉②

Suborder ANABANTOIDEI

OSPHROMENIDAE – Air-breather Family

- Gourami sp. ^{***19}
- Siamese Fighting Fish/Betta, *Betta splendens* ^{**18}

Class AMPHIBIA

Order CAUDATA – Salamanders

PLETHODONTIDAE – Lungless Salamander Family

- Undescribed Neotenic Salamander sp., *Eurycea neotenes* complex sp. No. 7c ☀⊙⑥
- White-throated Salamander, *Plethodon glutinosus albagula* ⁴⁰

Order ANURA

BUFONIDAE – True Toad Family

- Gulf Coast Toad, *Bufo valliceps* ²¹
- Red-spotted Toad, *Bufo punctatus* ⊙²¹

Suborder MESOBATRACHIA

SCAPHIOPODIDAE – Spadefoot Toad Family

- Couch's Spadefoot Toad, *Scaphiopus couchi* ②

Suborder NEOBATRACHIA

Superfamily HYLOIDEA

HYLIDAE – Tree Frog Family

- Blanchard's Cricket Frog, *Acris crepitans blanchardi* 📖⊙☀⑤
- Green Tree Frog, *Hyla cinerea* ⁴³

LEPTODACTYLIDAE – Foamnest Frog Family

- Cliff Chirping Frog, *Eleutherodactylus/Syrhropus marnocki* ¹¹

Superfamily RANOIDEA

RANIDAE – True Frog Family

- Rio Grande Leopard Frog, *Rana berlandieri* ☀⊙📖⑤
- [Bullfrog, *Rana catesbeiana*] ⁶⁶

Class SAUROPSIDA/REPTILIA – Reptiles

Subclass ANAPSIDA

Order TESTUDINES – Turtles

TRIONYCHIDAE – Softshell Turtle Family

- Guadalupe Spiny Softshell, *Apalone spinifera guadalupensis* ■¹⁴

CHELYDRIDAE – Snapping Turtle Family

- Common Snapping Turtle, *Chelydra serpentina serpentina* ¹⁷

CHRYSEMIDAE – Pond Turtle Family

- Red-eared Slider, *Trachemys scripta elegans* ○◎
- Texas Slider, *Pseudemys texana* ■²¹

Subclass DIAPSIDA

Order SQUAMATA – Lizards and Snakes

TEIIDAE – Smooth-scaled Lizards

- Six-lined Racerunner, *Cnemidophorus sexlineatus sexlineatus* ◎
- Spotted Whiptail Lizard, *Cnemidophorus gularis gularis* ¹⁸

ANGUIDAE – Worm Lizard Family

- Texas Alligator Lizard, *Gerrhonotus infernalis* (also^{***}) ■²⁰

PHRYNOSOMATIDAE – Spiny Lizard Family

- Texas Earless Lizard, *Cophosaurus texanus texanus* ♡◎②
- Crevice Spiny Lizard, *Sceloporus poinsetti* (also^{***}) ♡²²
- Southern Prairie Lizard, *Sceloporus undulatus consobrinus* ⁶²
- Eastern Tree Lizard, *Urosaurus ornatus ornatus* ◎⁶⁸

CROTAPHYTIDAE – Collared and Leopard Lizard Family

- Eastern Collared Lizard, *Crotaphytus collaris collaris* ♡②

Suborder SERPENTES -- Snakes

COLUBRIDAE – New World Racer Snakes

- Diamond-backed Water Snake, *Nerodia rhombifer rhombifer* ®
- Blotched Water Snake, *Nerodia erythrogaster transversa* ◎¹¹
- Red-striped Ribbon Snake, *Thamnophis proximus rubilineatus* ◎¹⁵
- Edwards Plateau Black-necked Garter Snake, *Thamnophis cyrtopsis ocellatus* ②
- Rough Green Snake, *Opheodrys aestivus* ²⁰
- Western Western Ground Snake, *Sonora semiannulata* ◎⁵⁸
- Western Coachwhip, *Masticophis flagellum testaceus* ◎⁴⁰
- Girard's Striped Whipsnake, *Masticophis taeniatus girardi* ♡³⁷
- Texas Indigo Snake, *Drymarchon corais erebennus* ³²
- Bullsnake, *Pituophis sayi* ♡②
- Great Plains Rat Snake, *Elaphe guttata emoryi* ^{***} ♡²⁴
- Mexican Milk Snake, *Lampropeltis triangulum annulata* ^{***} ♡²⁴
- Dusty Hognose Snake, *Heterodon nasicus gloydi* ♡②

ELAPIDAE – Cobra Family

- Texas Coral Snake, *Micrurus tener tener* ♡②³⁰

VIPERIDAE – Viper Family

- Western Diamond-backed Rattlesnake, *Crotalus atrox* ②
- Northern Black-tailed Rattlesnake, *Crotalus molossus molossus* ◎⁴¹ ⁴³
- Mottled Rock Rattlesnake, *Crotalus lepidus lepidus* ②

Class AVES

Order ANSERIFORMES – Waterfowl

ANATIDAE – Ducks, Geese, and Swan Family

- Blue-winged Teal, *Anas discors* 卍³⁰
- Green-winged Teal, *Anas carolinensis carolinensis* 卍⁹
- Ring-necked Duck, *Aythya collaris* 卍⁹

Order GALLIFORMES – Upland Gamefowl

PHASIANIDAE – Pheasant Family

- Northern Bobwhite, *Colinus virginianus* ²⁰
- Red Junglefowl/Domestic Chicken, *Gallus gallus* [Araucana] 卍²

MELEAGRIDIDAE – Turkey Family

- Rio Grande Wild Turkey, *Meleagris gallopavo intermedia* ①²⁰

Order CICONIIFORMES – Storks and Waders

ARDEIDAE – Heron and Egret Family

- Great Blue Heron, *Ardea herodias* ①☀️③⑤
- Green Heron, *Butorides virescens* 卍⁷
- Little Blue Heron, *Egretta caerulea* 卍³⁸
- Snowy Egret, *Egretta thula* 卍⁸⁸
- Cattle Egret, *Bibulcus ibis* 卍³⁹

Order Incertae sedis

CATHARTIDAE – New World Vulture Family

- Turkey Vulture, *Cathartes aura* 卍☉☿③④
- Black Vulture, *Coragyps atratus* (☀️?) ①☿⑤

Order FALCONIFORMES – Hawks, Eagles and Falcons

FALCONIDAE – Hawk Family

- Swallow-tailed Kite, *Elanoides forficatus* 卍¹⁹
- Mississippi Kite, *Ictinia mississippiensis* 卍⁴³
- Red-tailed Hawk, *Buteo jamaicensis cf. fuertesi* ☿卍⁶
- Red-shouldered Hawk, *Buteo lineatus* ①¹⁵
- Zone-tailed Hawk, *Buteo albonotatus* ^{19/20}
- Swainson's Hawk, *Buteo swainsoni* ⁹⁰
- Buteo sp. (dark), *Buteo sp.* ⑥

- Cooper's Hawk, *Accipiter cooperii* 卍⁶
- Sharp-shinned Hawk, *Accipiter striatus* 卍⁶
- Northern Harrier, *Circus cyaneus* 卍²³
- American Kestrel, *Falco sparverius* 卍⁸
- Merlin, *Falco columbarius* 卍☿²⁶
- Osprey, *Pandion haliaeetus* 卍¹⁶
- Crested Caracara, *Caracara cheriway* ²⁰

Order Gruiformes – Rails and Cranes

GRUIDAE – Crane Family

- Sandhill Crane, *Grus canadensis* 卍⁴³

Order CHARADRIIFORMES – Shorebirds, Plovers, Gulls and Terns

CHARADRIIDAE – Plover Family

- Killdeer, *Charadrius vociferus* 卍☉☿²⁴

CALIDRIDAE – Sandpiper Family

- Spotted Sandpiper, *Actitis macularius* 卍☉☿③⑤
- Lesser Yellowlegs, *Tringa flavipes* 卍⁹⁰
- Solitary Sandpiper, *Tringa solitaria* 卍☿³⁹
- Baird's Sandpiper, *Calidris bairdi* 卍³⁸
- Least Sandpiper, *Calidris minima* 卍³⁸
- Wilson's Snipe, *Gallinago delicata* 卍☉⁶⁰

RECURVIROSTRIDAE – Avocet and Stilt Family

- American Avocet, *Recurvirostra americana* 卍²

LARIDAE – Gull and Tern Family

- Franklin's Gull, *Larus pipixcan* 卍³⁸

Order COLUMBIFORMES – Doves, Pigeons and Sandgrouse

COLUMBIDAE – Dove and Pigeon Family

- Mourning Dove, *Zenaida macroura* ☿③⑤
- White-winged Dove, *Zenaida asiatica* ⑤

- Eurasian Collared-Dove, *Streptopelia decaocto* ☀⁸⁶
- Inca Dove, *Columbina inca* ☉⑦
- Common Ground-Dove, *Columbina passerina* ⁴³

Order PSITTACIFORMES – Parrots

PSITTACIDE – True Parrot Family

Subfamily PSITTACINAE – True Parrots

Tribe PLATYCERCINI – Grass Parakeets

- Budgerigar, *Melopsittacus undulatus* ** 🐾²⁴

Order CUCULIFORMES – Cuckoos

CUCULIDAE – Cuckoo Family

- Yellow-billed Cuckoo, *Coccyzus americana* 🐾③⑤
- Black-billed Cuckoo, *Coccyzus erythrophthalmus* 🐾⁴³
- Greater Roadrunner, *Geococcyx californianus* ③

STRIGIFORMES – Owls

STRIGIDAE – Owl Family

- Great Horned Owl, *Bubo virginianus* ²⁸
- Eastern Screech-Owl, *Otus asio hasbroucki* ³⁰

Order CAPRIMULGIFORMES

CAPRIMULGIDAE – New World Nightjar Family

- Chuck-Will's-Widow, *Caprimulgus vociferus* ¹⁴
- Poor-Will, *Phalaenoptilus nuttallii* ¹⁴
- Common Nighthawk, *Chordeiles minor* 🐾²⁰

Order APODIFORMES – Swifts and Hummingbirds

APODIDAE – Swift Family

- Chimney Swift, *Chaetura pelagica* ¹⁴

TROCHILIDAE – Hummingbird Family

- Black-chinned Hummingbird, *Archilochus alexandri*
☉🐾F③⑦
- Ruby-throated Hummingbird, *Archilochus colubris* 🐾F⑥
- Green Violetear, *Colibri thalassinus* ☉🐾F⁷⁶

- Hummingbird sp., *Selasphorus* sp. 🐾F⁵⁸

Order CORACIIFORMES – Rollers and Kingfishers

ALCEDINIDAE – Kingfisher Family

- Ringed Kingfisher, *Megaceryle torquata* ☉⑤
- Belted Kingfisher, *Ceryle alcyon* ⑤
- Green Kingfisher, *Chloroceryle americana* ☉☀🐾③⑤

Order PICIFORMES – Woodpeckers, Toucans and Jacamars

PICIDAE – Woodpecker Family

- Northern Flicker, *Colaptes auratus* 🐾⑥
- Ladder-backed Woodpecker, *Picoides scalaris* ☉③⑤
- Downy Woodpecker, *Picoides pubescens* 🐾② NCR
- Golden-fronted Woodpecker, *Melanerpes aurifrons* ☀③⑤
- Yellow-bellied Sapsucker, *Sphyrapicus varius* ☀🐾🐾⑨

Order PASSERIFORMES – Perching Birds

TYRANNIDAE – Tyrant Flycatcher Family

- Eastern Phoebe, *Sayornis phoebe* ☀☉🐾③⑤
- Black Phoebe, *Sayornis nigricans* ☉☀🐾⑤
- Say's Phoebe, *Sayornis saya* ⁸³
- Eastern Wood-Pewee, *Contopus virens* ☉③
- Olive-sided Flycatcher, *Contopus cooperi* 🐾²⁰
- Least Flycatcher, *Empidonax minima* 🐾⑦
- Acadian Flycatcher, *Empidonax virescens* ③¹⁵
- Willow Flycatcher, *Empidonax traillii* ③
- Ash-throated Flycatcher, *Myiarchus cinerascens*
☉☀🐾③⑤
- Great Crested Flycatcher, *Myiarchus crinitus* ¹²
- Scissor-tailed Flycatcher, *Tyrannus forficatus* ☉🐾⑥
- Western Kingbird, *Tyrannus verticalis* ③
- Couch's Kingbird, *Tyrannus couchii* ⁷⁰
- Eastern Kingbird, *Tyrannus tyrannus* 🐾⁶³
- Vermilion Flycatcher, *Pyrocephalus rubinus* 🐾③⑩

VIREONIDAE – Vireo Family

- White-eyed Vireo, *Vireo griseus* ㉔③⑤
- Yellow-throated Vireo, *Vireo flavifrons* ☀☿③⑤
- Hutton's Vireo, *Vireo huttoni* ☿☀⑧^{58[nesting]}
- Red-eyed Vireo, *Vireo olivaceus* ③¹⁰
- Blue-headed Vireo, *Vireo solitarius* ㉔③¹⁰
- Black-capped Vireo, *Vireo atricapillus* ☀²⁰

CORVIDAE – Crow and Jay Family

- Blue Jay, *Cyanocitta cristata* ⁴⁶
- Western Scrub-Jay, *Aphelocoma coerulescens* ㉔☿③⑤
- Common Raven, *Corvus corax* ☿☀③⑤
- Chihuahuan Raven, *Corvus cryptoleucus* ③
- [□ American Crow, *Corvus brachyrhynchos* ²⁰]

HIRUNDINIDAE – Swallow Family

- Barn Swallow, *Hirundo rustica* ☀⑤
- Cave Swallow, *Petrochidon fulva* ☀③⑥
- Cliff Swallow, *Petrochelidon pyrrhonota* ☀③¹¹
- Tree Swallow, *Tachycineta bicolor* (Vieillot 1808) ㉔¹¹
- Northern Rough-winged Swallow, *Stelgidopteryx serripennis* ㉔⑦
- Purple Martin, *Progne subis* ③¹¹

PARIDAE – Chickadee Family

- Carolina Chickadee, *Poecile carolinensis* ☀③⑤
- Black-crested Titmouse, *Baeolophus atricristatus* ㉔☀☿③⑤

AEGITHALIDAE – Bushtit Family

- Bushtit, *Psaltriparus minimus* ¹⁰

TROGLODYTIDAE – Wren Family

- Bewick's Wren, *Thryomanes bewickii* ㉔③④

- Canyon Wren, *Catherpes mexicanus* ㉔③⑤
- Rock Wren, *Salpinctes obsoletus* ⁴³
- Carolina Wren, *Thryothorus carolinensis* ㉔③⑤
- House Wren, *Troglodytes aedon* ㉔⑥
- Winter Wren, *Troglodytes troglodytes* ㉔⑧
- Marsh Wren, *Cistothorus palustris* ㉔⑨

REGULIDAE – Kinglet Family

- Ruby-crowned Kinglet, *Regulus calendula* ㉔㉔⑦
- Golden-crowned Kinglet, *Regulus satrapa* ㉔⑧

SYLVIIDAE – Old World Warbler Family

- Blue-gray Gnatcatcher, *Polioptila caerulea* ☿☀③⑦

TURDIDAE – Thrush Family

- American Robin, *Turdus migratorius* ㉔⑨
- Wood Thrush, *Hylocichla mustelina* ㉔⁵⁴
- Hermit Thrush, *Catharus guttatus* ㉔☿⑨
- Eastern Bluebird, *Sialia sialis* ²⁰

MIMIDAE – Thrasher Family

- Northern Mockingbird, *Mimus polyglottos* ㉔⑤
- Curve-billed Thrasher, *Toxostoma curvirostre* ⑧
- Gray Catbird, *Dumetella carolinense* ㉔⑧

MOTACILLIDAE – Pipit Family

- American Pipit, *Anthus rubescens* ㉔ ⁴³

BOMBYCILLIDAE – Waxwing Family

- Cedar Waxwing, *Bombycilla cedrorum* ☿㉔③⑨

PARULIDAE – Wood Warbler Family

- Northern Parula, *Parula americana* ㉔¹⁰
- cf. Tropical Parula, *Parula pitiayumi* ¹⁰
- Nashville Warbler, *Vermivora ruficapilla* ㉔⑥
- Orange-crowned Warbler, *Vermivora celata* ㉔⑧

- Black-and-White Warbler, *Mniotilta varia* ③¹⁰
- Chestnut-sided Warbler, *Dendroica pensylvanica* ㄱ⁵⁴
- Black-throated Green Warbler, *Dendroica virens* ㄱ¹¹
- Golden-cheeked Warbler, *Dendroica chrysoparia*
∞ □ ☉ ☀ ㄱ ③ ④
- Yellow Warbler, *Dendroica petechia* ㄱ ⑤
- Yellow-throated Warbler, *Dendroica dominica* ㄱ ☉¹⁰
- Pine Warbler, *Dendroica pinus* ㄱ ⑨
- Yellow-rumped (Myrtle) Warbler, *Dendroica coronata* ssp. ㄱ ⑨
- Yellow-rumped (Audubon's) Warbler, *Dendroica coronata* ssp. ☉ ㄱ⁸⁹
- Wilson's Warbler, *Wilsonia pusilla* ㄱ ⑦
- Louisiana Waterthrush, *Seiurus motacilla* ☉ ㄱ ③ ⑤
- Common Yellowthroat, *Geothlypis trichas* ㄱ⁵⁸
- Yellow-breasted Chat, *Icteria virens* ¹⁶

THRAUPIDAE – Tanager Family

- Summer Tanager, *Piranga rubra* ☉ ㄱ ③ ④
- Scarlet Tanager, *Piranga olivacea* ㄱ²⁰
- Western Tanager, *Piranga ludoviciana* ㄱ³⁰

EMBERIZIDAE – Bunting and Sparrow Family

- Chipping Sparrow, *Spizella passerina* ☉ F ③ ⑤
- Clay-colored Sparrow, *Spizella pallida* F ⑦
- Field Sparrow, *Spizella pusilla* ☀²⁰
- Dark-eyed Junco, *Junco hyemalis* ㄱ²⁰
- Song Sparrow, *Melospiza melodia* ㄱ ⑨
- Lincoln's Sparrow, *Melospiza lincolnii* ㄱ ⑨
- Savannah Sparrow, *Passerculus sandwichensis* ㄱ ☉²⁰
- Cassin's Sparrow, *Aimophila cassinii* ㄱ¹⁰
- Rufous-crowned Sparrow, *Aimophila rufescens* ③ ⑥
- Lark Sparrow, *Chondestes grammacus* ☉ ③¹⁰
- Vesper Sparrow, *Pooecetes gramineus* ㄱ⁴³
- Grasshopper Sparrow, *Ammodramus savannarum* ⁴³
- White-crowned Sparrow, *Zonotrichia leucophrys* ㄱ²⁰

- Eastern Towhee, *Pipilo erythrophthalmus* ㄱ²⁰
- Spotted Towhee, *Pipilo maculatus* ㄱ ⑧
- Canyon Towhee, *Pipilo fuscus* ③
- Green-tailed Towhee, *Pipilo chlorurus* ㄱ⁴³
- Dickcissel, *Spiza americana* ¹¹

CARDINALIDAE – New World Finch Family

- Northern Cardinal, *Cardinalis cardinalis* ㄱ ☉ F ③ ⑤
- Pyrrhuloxia, *Cardinalis sinuata* ㄱ⁵⁴
- Blue Grosbeak, *Passerina caerulea* ⑤
- Rose-breasted Grosbeak, *Pheucticus ludovicianus* ㄱ⁵⁹
- Painted Bunting, *Passerina ciris* ¹²
- Indigo Bunting, *Passerina cyanea* ¹³
- Lazuli Bunting, *Passerina amoena* ㄱ ②
- Varied Bunting, *Passerina versicolor* ⁵⁸

ICTERIDAE – Blackbird Family

- Eastern Meadowlark, *Sturnella magna (~lilianae) hoopesi* ㄱ³⁰
- Western Meadowlark, *Sturnella neglecta* ㄱ³⁰
- Great-tailed Grackle, *Quiscalus mexicanus* ⁴⁸
- Common Grackle, *Quiscalus quiscula* ⁵⁸
- Red-winged Blackbird, *Agelaius phoeniceus* ☉ ☀ ㄱ ④
- Yellow-headed Blackbird, *Xanthocephalis xanthocephalus* ㄱ³⁸
- Brown-headed Cowbird, *Molothrus ater* ¹⁰ ☀ ③¹¹
- Bronzed Cowbird, *Molothrus aeneus* ¹⁵
- Orchard Oriole, *Icterus spurius* ㄱ ⑤
- Hooded Oriole, *Icterus cucullatus* ③
- Audubon's Oriole, *Icterus garduacauda audubonii* ⁴⁰
- Scott's Oriole, *Icterus parisorum* ¹¹
- Baltimore Oriole, *Icterus galbula* ㄱ³⁰

FRINGILLIDAE – Cardueline Finch Family

- House Finch, *Carpodacus mexicanus* ☀ ☉ ㄱ F ③ ④
- Lesser Goldfinch, *Carduelis psaltria* ☀ ☉ ㄱ F ③ ④

- American Goldfinch, *Carduelis tristis* 🐦⊙F⑨
- Pine Siskin, *Carduelis pinus* 🐦F⊙②

PASSERIDAE – Old World Sparrow Family

- House Sparrow, *Passer domesticus* ⑤

Class MAMMALIA

Superorder XENARTHRA

Order CINGULATA

DASYPODIDAE – Armadillo Family

- Nine-banded Armadillo, *Dasypus novemcinctus* 🐾②²⁰

Infraclass MARSUPIALIA

Order DIDELPHIMORPHA – Opossums

DIDELPHIDAE – Opossum Family

- Virginia Opossum, *Didelphis virginiana* ②

Infraclass EUTHERIA

Superorder LAURASIATHERIA/ARCHONTA

Order CHIROPTERA

Suborder MICROCHIROPTERA

Superfamily MOLOSSOIDEA

MOLOSSIDAE – Freetail Bat Family

- Mexican Freetail Bat, *Tadarida brasiliensis* 🦇🐾³¹

Superfamily VESPERTILIONOIDEA

VESPERTILIONIDAE – Vesper and Evening Bat Family

- Eastern Red Bat, *Lasiurus borealis* 🦇🐾³¹
- Eastern Pipistrelle, *Perimyotis subflavus* 🦇🐾³¹
- Cave Bat, *Myotis velifer* 🦇🐾³¹

Order CARNIVORA – Carnivores

CANIDAE – Dog Family

- Gray Fox, *Urocyon cinereoargenteus* ⊙②⑤
- Coyote, *Canis latrans* 🐾②⑨

- Domestic Dog, *Canis familiaris* [Miniature Schnauzer, Harrier, Basset Hound, Heinz57] **⑨

PROCYONIDAE – Raccoon Family

- Raccoon, *Procyon lotor fuscipes* 🦝①②⑤
- [White-nosed Coati/Coati, *Nasua narica* 🐾②]
- Ringtail/Cacomistle, *Bassariscus astutus* ②

MEPHITIDAE – Skunk Family

- Striped Skunk, *Mephitis mephitis* ②

FELIDAE – Cat Family

- Bobcat, *Lynx rufus* ②
- [□ Mountain Lion/Cougar/Puma, *Felis concolor* (possible prints found ^{18/20}; deer kill found ⁷⁹; one found DOR on highway outside Ranch, Spring 2010, reported by Leakey Star with photos, fide NQ)]
- Feral/Barn Cat, *Felis cattus* *²⁵

Order ARTIODACTYLA – Even-toed Ungulates

SUIDAE – Pig Family

- Domestic Pig [Feral Hog, show], *Sus scrofa* *①②¹¹

CERVIDAE – Deer Family

- White-tailed Deer, *Odocoileus virginianus texanus* ⊙①⑤
- Axis Deer, *Axis axis* *⊙①¹⁵
- Fallow Deer, *Cervus dama dama* *①
- Sika Deer, *Cervus nippon* *①
- Red Deer, *Cervus elephas* ⁴³

BOVIDAE – Cattle/Goat Family

- Mouflon, *Ovis orientalis* *⊙🐾①
- Corsican Sheep, *Ovis musimon* *①
- Afghan Ural/Persian Red Sheep, *Ovis ammon gmelini* *🐾①⑥

- Barbados Sheep, *Ovis ammon* ssp. *☞⑨
- Jacob's Four-horned Sheep, *Ovis ammon* var. *①
- Domestic Sheep, *Ovis aries* [medium weight crossbred show, light weight medium wool show]

**② 28

- Aoudad/Barbary Sheep, *Ammotragus lervia* *①⑭
- Ibex X Spanish Goat, *Capra* sp. X *Capra hircus* **①⑯
- Domestic Goat, *Capra hircus* [Spanish, Boer, Boer X, show] ②**②
- Domestic Cattle [Black Angus, Texas Longhorn], *Bos taurus* **②②
- Blackbuck, *Antelope caervicapra* *☞①⑥

CAMELIDAE – Camel Family

- Llama, *Auchenia glama* **☞⑤

Order PERISSODACTYLA – Odd-toed Mammals

EQUIDAE – Horse Family

- Domestic Horse [Quarterhorse (Palomino, Bay), Mustang, Paint (Tobiano, Overo), Appaloosa (Red), Strawberry Roan, Arabian, Hanoverian], *Equus caballus* ②**☞⑤
- Domestic Donkey [Sicilian], *Equus asinus* **☞⑤

Order RODENTIA – Rodents

SCIURIDAE – Squirrel Family

- Edwards Plateau Fox Squirrel, *Sciurus niger limitus* (also***)②⑥
- Rock Squirrel, *Spermophilus variegatus* ②①
- Mexican Ground-Squirrel, *Ammospermophilus mexicanus* ⑥

ERETHIZONTIDAE – New World Porcupine Family

- Porcupine, *Erethizon dorsatum* ②⑨

CRICETIDAE – New World Mouse and Rat Family

- Hispid Cotton Rat, *Sigmodon hispidus* ³⁵

- Deer Mouse sp., *Peromyscus* sp. ⁴³
- Texas Mouse, *Peromyscus attwateri* ⁷⁷

HETEROMYIDAE – Jumping Mice Family

Subfamily DIPODOMYINAE – Kangaroo Rats

- Merriam's Kangaroo Rat, *Dipodomys merriami* ³⁰

Order PRIMATES – Monkeys and Apes

HOMINIDAE – Human Family

- Human Beings (modern European [Irish, Scottish, Italian, Spanish], Asian and African immigrants, Kainaa, native Comanche,[Coahuiltecan, Mescalero Apache]) (also *) ¹⁰②❖①④

MICROBIAL

Group I (dsDNA) VIRUSES

HERPESVIRIDAE – Human Herpes Virus Family

Subfamily Alphaherpesvirinae

- Human HerpesVirus 1/Fever Blister/Cold Sore/Herpes labialis/Herpes Simplex/Genital Herpes/Encephalitis, *Simplexvirus* sp. HSV-1/HSV-1 *❖
- Human HerpesVirus 2/Fever Blister/Cold Sore/Herpes labialis/Herpes Simplex/Genital Herpes, *Simplexvirus* sp. HSV-2/HHV-2 *❖
- Human HerpesVirus 3/Chicken Pox/Shingles, *Varicella zoster* VZV/HHV-3 *

Group IV ((+)ssRNA) VIRUSES

PICORNAVIRIDAE – Small RNA Virus Family

- Common Cold/Human Rhinovirus A Virus, *Rhinovirus* sp. *❖

FLAVIVIRIDAE – Hepatic Virus Family

- Hepatitis C, *Hepacivirus* sp. *☞

Group V ((-)ssRNA) VIRUSES

ORTHOMYXOVIRIDAE – Flu Virus Family

- Influenza, *Influenzavirus* sp. (A/B/C) *☠

Kingdom BACTERIA

Phylum FIRMICUTES

Class CLOSTRIDIA

Order CLOSTRIDIALES

CLOSTRIDIACEAE – Common Bacteria Family

- Common Food Poisoning/Tissue Gas/Gas Gangrene, *Clostridium perfringens* *❖

Class BACILLI

Order BACILLALES

BACILLACEAE – Bacillus Bacteria Family

- Human Follicle Demodex Mite Gut Bacteria, *Bacillus oleronius* *❖

Order LACTOBACILLALES

STREPTOCOCCACEAE – Strep Bacteria Family

- Impetigo/Strep Throat/Pharyngitis/Necrotizing Fasciitis/Toxic Shock/Cellulitis, *Streptococcus pyogenes* *❖

STAPHYLOCOCCACEAE – Staph Bacteria Family

- Impetigo/Acne/Furunculosis/Cellulitis/Pneumonia/Meningitis /Toxic Shock/Septicemia/ Endocarditis, *Staphylococcus aureus* *❖

Division CYANOBACTERIA – Blue-Green Algae

Class Unresolved

Order NOSTOCALES

NOSTOCACEAE – Star Jelly Family

- Nostoc, *Nostoc cyana* ³⁷

Kingdom FUNGI -- Fungus, Toadstools & Mushrooms

Division ASCOMYCOTA – Fungus

- Orange Shelf Fungus on Pecan ⑧
- Jack O'Lantern Dark Orange Shelf Fungus on Lacey Oak ²¹
- White Shelf Fungus on Stump ¹⁷
- Orange Finger Fungus on dead log, *Calocera cornea* ⑩¹¹
- Cream Shelf Fungus on Arizona Walnut ⑩¹¹
- Thick Dark Orange Shelf Fungus on Arizona Walnut ⑩¹⁶
- True Fungus ¹¹
- Small Brown Hard Fungus ¹⁷
- Mushroom on cowpie ²¹
- White-spotted Blacktop Delicate Pasture Mushroom ³⁷

Division BASIDIOMYCOTA

Class HOMOBASIDIOMYCOTA

Order PHALLALES (LYCOPERDALES)

GEASTRACEAE – Earthstar Family

- Earthstar-type Fungus ⑩ ¹⁷

Class EUASCOMYCETES

Order ONYGENALES

ARTHRODERMATACEAE – Skin Fungus Family

- Athlete's Foot/Tinea Pedis/Jock Itch/Tinea Cruris, *Epidermophyton floccosum* *❖
- Athlete's Foot/Tinea Pedis, *Trichophyton mentagrophytes* var. *interdigitale* *❖
- Athlete's Foot/Tinea Pedis/Body Ringworm/Tinea Corpus/Jock Itch/Tinea Cruris, *Trichophyton rubrum* *❖

TREBOUXIOPHYCEAE – Lichen+Algae Symbiont Family

- Sea Green Crustose Lichen on Limestone ⑧
- Orange Crustose Lichen on Limestone ⑩¹¹
- Orange Crustose Lichen on Plateau Live Oak ¹²
- Black Crustose Lichen on Limestone ⑩¹⁶

- White Crustose Lichen on Limestone ◉¹⁶
- Rose Crustose Lichen on Limestone ◉¹⁶
- Lemon Yellow Crustose Lichen on Limestone ◉¹⁶
- Wet Green Lichen on Limestone ◉¹⁶
- Sea Green Foliose Lichen on Plateau Live Oak ②⑧
- Orange Foliose Lichen on Plateau Live Oak ¹²
- Orange Foliose Lichen on Huisache ¹⁴
- Slimy Wet Brown Lichen on Rock in Water ◉¹⁷

Supergroup PRIMOPANTAE – Green Algae

CHLOROPHYTA – Green Algae

CHLOROPHYCEAE – Green Algae Family

- Green Algae sp. ⑤

Kingdom PLANTAE – Plants

Division BRYOPHYTA

Class BRYOPSIDA

- Aquatic Moss sp. ¥⑤
- Dryland Moss on Limestone ⑤
- Dryland Moss on Bark ⑤

Division MARCHANTIAPHYTA

Class JUNGERMANNIOPSISIDA

Order METZGERIALES

- Thalloid Liverwort sp. ¥¹¹

Division LYCOPODIOPHYTA

Class SELAGINELLOPSIDA

Order SELAGINELLALES

SELAGINELLACEAE – Resurrection Fern Family

- Selaginella, *Selaginella* sp. ⚙²¹

Division PTERIDOPHYTA – Ferns & Mosses

- Featherleaf Fern sp. **¹⁸

Incertae sedis

Class EQUISETOPSIDA

EQUISETACEAE – Horsetail Family

- Horsetail sp. I, *Equisetum* sp. ²²
- Tiny Horsetail sp. II, *Equisetum* sp. ⁶⁹

Class POLYPODIOPSIDA

Order SCHIZAEALES

ANEMIACEAE – Grass Fern Family

- Mexican Curlygrass Fern, *Anemia mexicana* ◉③¹⁶

Class PTERIDOPSIDA – True Ferns

Order PTERIDALES

PTERIDACEAE – Rock Fern Family

- Maidenhair Fern, *Adiantum capillus-veneris* ◉¥⚙③⑤
- Small-leaved Cloakfern, *Argyrochosma microphylla* (*Notholaena parvifolia*) ◉¹⁶
- Wavyleaf Cloakfern, *Notholaena sinuata integerrima* ◉③¹⁶
- Standley Cloakfern, *Notholaena standleyi* ③

PELLAEACEAE – Cliffbrake Family

- Alabama Lipfern, *Cheilanthes alabamensis* ◉③¹¹
- Purple Cliffbrake, *Pellaea atropurpurea* ◉③¹¹
- ZigZag Cliffbrake, *Pellaea ovata* ◉③¹¹

Order POLYPODIDALES – Tree Ferns

DAVALLIACEAE – Sword Fern Family

- Boston Fern, *Nephrolepis exaltata* **²⁰

Order ATHYRIALES

THELYPTERIDACEAE – Bracken Fern Family

- River Shieldfern, *Thelypteris ovata* var. *lindheimeri* ◉¥③⑤

GYMNOSPERMAE – Conifers

PINALES

CUPRESSACEAE – Cypress Family

- Ashe Juniper/Mountain Cedar, *Juniperus ashei* ◻③⑤
- Oriental Arbor-Vitae, *Platycladus orientalis* **25
- Bald Cypress, *Taxodium distichum* (also ***)③⑤
- Western Red Cedar, *Thuja plicata* **22

PINACEAE – Pine Family

- Edwards Plateau Pinyon, *Pinus remota* 77
- Monterey Pine, *Pinus radiata* **55

ANGIOSPERMAE – Seed Plants

Division MAGNOLIOPHYTA

MONOCOTYLEDONAE – Parallel-veined Plants

Class LILIOPSIDA

Order POALES

POACEAE – Grass Family

- Water Bentgrass, *Agrostis semiverticillata* (*Polypogon viridis*) ◉③¹¹
- Bushybeard Bluestem, *Andropogon glomeratus* ③⑤
- Old-field Three Awn, *Aristida oligantha* ♣②
- Purple Three Awn, *Aristida purpurea* var. *wrightii* ◻③⑤
- Oats, *Avena fatua* * ♣②
- King Ranch Bluestem, *Bothriochloa ischaemum* var. *songarica* * ◻③⑤
- Silver Bluestem, *Bothriochloa saccahroides* ♣②
- Sideoats Grama, *Bouteloua curtipendula* ③¹³
- Hairy Grama, *Bouteloua hirsuta* ♣②
- Tall Grama, *Bouteloua pectinata* ♣②
- Texas Grama, *Bouteloua rigidiseta* ③¹⁵
- Red Grama, *Bouteloua trifida* ♣②
- Neally Grama, *Bouteloua uniflora* ♣②
- Japanese Brome Grass, *Bromus japonicus* * ♣②
- Rescuegrass, *Bromus unioloides* (*B. catharticus*) ③
- Buffalograss, *Buchloe dactyloides* ◻◉③¹⁴
- Buffelgrass, *Cenchrus ciliaris* ◉¹⁶
- Mat Sandbur, *Cenchrus incertus* ♣②

- Longspine Sandbur, *Cenchrus longispinus* ²¹
- Creek Oats, *Chasmanthium latifolium* ③
- Hooded Windmill Grass, *Chloris cucullatus* ♣②
- Tumble Windmill Grass, *Chloris verticillata* ♣②
- Pampas Grass, *Cortaderia selloana* **20
- Coastal Bermudagrass, *Cynodon dactylon* *③⑤
- Orchard Grass, *Dactylis glomerata* * ♣②
- Lindheimer Panicgrass, *Dichantherium* (*Panicum*) *lindheimeri* ③
- Scribner Panicgrass, *Dichantherium* (*Panicum*) *oligosanthes* ◉③
- Kleberg Bluestem, *Dichanthium annulatum* ♣②
- Hairy Crabgrass, *Digitaria ciliaris* * ♣②²¹
- Smoothscale Canada Wildrye, *Elymus canadensis* v. *canadensis* ♣②
- Indian Goosegrass, *Eleusine indica* *²¹
- Mediterranean Lovegrass, *Eragrostis barrelieri*²¹
- Plains Lovegrass, *Eragrostis intermedia* ③
- Texas Cupgrass, *Eriochloa sericea* ♣②
- Hairy Tridens, *Erioneuron pilosum* ③
- Common Curly Mesquite, *Hilaria belangeri* ♣②
- Little Barley, *Hordeum pusillum* ♣②
- Rice Cutgrass, *Leersia oryzoides* *²¹
- Green Sprangletop, *Leptochloa dubia* ♣②
- Red Sprangletop, *Leptochloa filiformis* ♣②
- Fall Wistchgrass, *Leptoloma cognatum* ♣②
- Ozarkgrass, *Limnodea arkansana* ③
- English Perennial Rye, *Lolium perenne* (*L. multiflorum*) ③¹⁴
- Shining Melic Grass, *Melica nitens* * ③¹⁴
- Lindheimer Muhly, *Muhlenbergia lindheimeri* ◉③¹¹
- Seep Muhly, *Muhlenbergia reverchonii* ⑤
- Deer Muhly, *Muhlenbergia rigens* *²¹
- Nimblewill, *Muhlenbergia schreberi* ♣②
- Rock Muhly, *Muhlenbergia sobolifera* *²¹
- Muhly sp., *Muhlenbergia* sp. (*M. dubia*?) ③

- Kleingrass, *Panicum coloratum* L. *²¹
- Hall's Panicgrass, *Panicum hallii* 🌿²¹
- Switchgrass, *Panicum virgatum* ²¹
- Bahia Grass, *Paspalum notatum* ⁶⁹
- Paspalum sp., *Paspalum* sp. ③
- Dallisgrass, *Paspalum dilatatum* ²¹
- Hairyseed Paspalum, *Paspalum pubiflorum* ²¹
- Vasey's Grass, *Paspalum urvillei* ²¹
- Carolina Canary Grass, *Phalaris caroliniana* 🌿②
- Annual Bluegrass, *Poa annua* * 🌿②
- Rabbitfoot Grass, *Polypogon monspeliensis* 🌿②
- Tumblegrass, *Scheddonardus paniculatus* 🌿②
- Knotroot Bristlegrass, *Setaria geniculata* 🌿②
- Plains Bristlegrass, *Setaria leucophila* 🌿②
- Green Bristlegrass, *Setaria viridis* * 🌿②
- Bristlegrass sp., *Setaria* sp. (*S. reverchonii*?) ③
- Texas Wintergrass/Speargrass, *Stipa (Nassella) leucotricha* ③¹¹
- Little Bluestem, *Schizachyrium scoparium* 🌿¹⁴
- Indiangrass, *Sorghastrum nutans* ¹¹
- Johnson Grass, *Sorghum halepense* *¹⁴
- Milo/Sorghum, *Sorghum* cf. *bicolor* *²¹
- Prairie Wedgescale, *Sphenopholis obtusata* 🌿②
- Tall Dropseed, *Sporobolus asper* ²¹
- Sand Dropseed, *Sporobolus cryptandrus* 🌿②
- Whorled Dropseed, *Sporobolus pyramidatus* 🌿②
- Poverty Dropseed, *Sporobolus vaginaeflorus* 🌿②
- White Tridens, *Tridens albescens* 🌿②
- Buckley's Tridens, *Tridens buckleyanus* 🌿²¹
- Slim Tridens, *Tridens (muticus) elongatus* 🌿²¹
- Eastern Gamagrass, *Tripsacum dactyloides* 🌿②
- Wheat, *Triticum aestivum* * 🌿②
- Goatgrass, *Triticum cylindricum* * 🌿②
- Sixweeks Grass, *Vulpia octoflora* ③
- Domestic Grass sp. ¹⁵
- Stripe-leaved Ornamental Grass sp. ** ¹⁸

- Copper-leaved Ornamental Grass sp. ** 🌿¹⁸
- Giant Windmill Ornamental Grass sp. ** 🌿²⁴
🌿②

CYPERACEAE – Sedge Family

- Canyon Sedge, *Carex edwardsiana* 🌿③
- Littletooth Sedge, *Carex microdonta* 🌿²¹
- Cedar Sedge, *Carex planostachys* ③
- Texas Sedge, *Carex cepa (C. texensis)* ¹⁴
- Jamaican Sawgrass, *Cladium jamaicense* 🌿③⑤
- Pond Flatsedge, *Cyperus ochraceus* ²¹
- Fragrant Flatsedge, *Cyperus odoratus* ²¹
- Annual Spikesedge, *Eleocharis caribaea* ③
- Spikesedge, *Eleocharis montividentis* ③
- Porcupine Sedge, *Fuirena simplex* ③¹¹
- Tall White-top Sedge, *Rhynchospora (Dichromena) colorata* (🌿?)③^{16?}
- Snowy White-top Sedge, *Rhynchospora (Dichromena) nivea* ③
- Black Sedge, *Schoenus nigricans* 🌿🌿③¹⁴

JUNCACEAE – Rush Family

- Rush sp., *Juncus* sp. (*J. interior*?) 🌿③¹⁴

TYPHACEAE – Cattail Family

- Common Cattail, *Typha latifolia* ⁵⁴

Order ARECALES

ARECACEAE – Palm Family

- Small Fan Palm sp. ** ¹⁸

Order ALISMATALES

ARACEAE – Arum Family

- Caladium, *Caladium bicolor* **¹⁸
- Silver Vine/Pothos, *Epipremnum aureum (pinnatum)* **²⁰
- Closet-Plant/Peace Lily, *Spathiphyllum cf. wallisii* **¹⁸

POTAMOGETONACEAE – Pondweed Family

- Longleaf Pondweed, *Potamogeton nodosus* 🌿¹⁴

Order BROMELIALES -- Bromeliads

BROMELIACEAE – Pineapple and Airplant Family

- Ballmoss, *Tillandsia recurvata* ☉ ③⑤
- Spanish Moss, *Tillandsia usneoides* */** 🌿²⁰

Order COMMELINALES

COMMELINACEAE – Dayflower Family

- Erect Dayflower, *Commelina erecta* ☉¹⁶
- Widow's Tears, *Tinantia (Commelinantia) anomala* ☉③
- Purple Heart Wandering Jew, *Tradescantia (Setcreasea) pallida* **¹⁶
- Spiderwort sp., *Tradescantia* sp. ③

Order LILIALES/ASPARAGALES

LILIACEAE – True Lily Family

- Fall Rainlily, *Cooperia drummondii*²¹
- Spring Rainlily, *Cooperia pedunculata* ☉③¹¹

ALLIACEAE – Garlic Family

- Drummond Wild Garlic, *Allium drummondii* ☉③¹¹
- Crowpoison, *Nothoscordum bivalve* (L.) Britt. ☉⑥

RUSCACEAE – Beargrass Family

- Texas Sotol, *Dasyllirion texanum* (also^{***}) ③⑤
- Dracaena sp. II, *Dracaena cf. marginata* **²⁰
- Dragon's Blood Palm, *Dracaena* sp. **²⁰
- Devil's Shoestring/Lindheimer's Nolina, *Nolina lindheimeriana* ③⑥
- Sacahuista, *Nolina texana* 🌿²¹
- Sansieveria/Snake Plant, *Sansevieria trifasciata* **¹⁸

SMILACACEAE – Briar Family

- Greenbriar, *Smilax bona-nox* ☉③⑥
- Briar sp., *Smilax* sp. ☉¹⁶
- Coppery-stemmed Smilax-like Vine ☉¹⁷

AGAVACEAE – Agave/Yucca Family

- Century Plant, *Agave americana* **¹⁶
- Havard Agave, *Agave havardiana* **¹⁶
- Red-flowered Yucca, *Hesperaloe engelmanniana* ***¹⁸
- Siler's Manfreda (sp.), *Manfreda cf. sileri/Polianthes* sp. (**?)☉¹⁵
- Giant Yucca sp., *Yucca baccata/carnerosana*²¹
- Soaptree Yucca, *Yucca cf. elata* **¹⁶
- cf. Hybrid Yucca, *Yucca rupicola* X *Y. cf. constricta* ☉¹⁵
- Twistleaf Yucca, *Yucca rupicola* 🌿☉③⑤
- [Candlestick/Torrey Yucca, *Yucca cf. torreyi* ⑥]
- Spanish Dagger, *Yucca treculeana* ③⑤
- Plains-type Yucca sp., *Yucca* sp. (*Y. arkansana*/*Y. constricta*?)¹¹
- Plantain Lily (Big Daddy), *Hosta sieboldiana* **⁸⁸

LAXMANNIACEAE – Dragon Palm Family

- Dragon Palm, *Cordyline australis* **⁸⁹

ASPHODELACEAE – Aloe Family

- Aloe Vera, *Aloe vera* **¹⁸

IRIDACEAE – Iris Family

- Blue-eyed Grass sp., *Sisyrinchium* sp. ☉¹¹
- Iris sp., *Iris* sp. **²⁰

ORCHIDACEAE – Orchid Family

- Giant Helleborine/Chatterbox Orchid, *Epipactis gigantea* ∞☉ 🌿 ③⑤

Order ZINGIBERALES

MUSACEAE – Banana Family

- Banana, *Musa X paradisiaca* **⑥

CANNACEAE – Canna Family

- Red Canna, *Canna glauca* **⑥
- Yellow Canna, *Canna indica* **⑥

DICOTYLEDONEAE—Fork-veined Plants

Class MAGNOLIOPSIDA

Order FAGALES

JUGLANDACEAE – Hickory Family

- Pecan, *Carya illinoensis* (also***) ⑤
- Arizona Walnut, *Juglans major* ③⑤
- Mexican Walnut/Little Walnut/Nogalito, *Juglans microcarpa* ③⑤

FAGACEAE – Oak/Beech Family

- Texas Oak/Spanish Oak, *Quercus buckleyi* (*Q. texana*)
⊙ ③⑤
- Plateau Live Oak, *Quercus fusiformis* ③⑤
- Lacey Oak/Blue Oak, *Quercus laceyi* (*Q. glaucoides*)
⊙ ③⑤
- Blackjack Oak, *Quercus marilandica* ③
- Plateau Chinkapin Oak, *Quercus muhlenbergii* var. *brayi*
⑤
- Scalybark/Bastard/Shin Oak, *Quercus sinuata* var. *breviloba* ¹¹
- Post Oak, *Quercus stellata*-complex ¹⁷

Subclass ROSIDAE

Order ROSALES

CANNABACEAE – Hemp Family

- Sugarberry, *Celtis laevigata* ⑤
- Netleaf Hackberry, *Celtis reticulata* ③¹¹

ULMACEAE – Elm Family

- Cedar Elm, *Ulmus crassifolia* ③⑤

MORACEAE - -Mulberry Family

- Common Fig, *Ficus carica*. ^{*10}
- Texas Littleleaf Mulberry, *Morus microphylla* ③⑤

URTICACEAE – Nettle Family

- False-nettle, *Boehmeria cylindrica* □③⑤
- Cucumberweed, *Parietaria pensylvanica* (*P. obtusa*)
✿ ③¹⁴

ROSACEAE – Rose and Fruit Family

- Mountain Mahogany, *Cercocarpus montanus* □⊙ ③⑤
- Escarpment Black Cherry, *Prunus serotina* ssp. *eximia*
■?③⑤
- Plum sp., *Prunus sp.* ⊙¹⁷
- Plum sp., *Prunus sp.* **⑥
- Pear, *Pyrus cf. communis* ^{**16}
- Rose, *Rosa chinensis* ^{**25}
- Southern Dewberry, *Rubus trivialis* ¹⁷

RHAMNACEAE – Buckthorn Family

- Redroot/Inland Ceanothus, *Ceanothus herbaceus* ③
- [Brasil, *Condalia hookeri* s ③]
- Green Squawbush, *Condalia viridis* ⊙③¹⁴
- Carolina Buckthorn, *Rhamnus caroliniana* ③⑤

Order PIPERALES

ARISTOLOCHIACEAE – Pipevine Family

- Virginia Pipevine, *Aristolochia serpentaria* ✿ ③¹⁴

Order CARYOPHYLLALES

AMARANTHACEAE – Amaranth Family

- Pigweed, *Amaranthus sp.* ²²

NYCTAGINACEAE – Four O’Clock Family

- Rock Four O’Clock, *Mirabilis dumetorum* (syn. *latifolia*) ☼③¹⁴
- Common Four O’Clock, *Mirabilis jalapa* ** 15
- [Four O’Clock, *Mirabilis linearis* □⑥]
- Bougainvillea, *Bougainvillea glabra/spectabilis* ** 18

CARYOPHYLLACEAE – Sandwort Family

- Bentham Sandwort, *Arenaria benthamii* ☼③¹⁴
- Dianthus/Pink, *Dianthus plumarius* ⊙** 18

PHYTOLACCACEAE – Poke Family

- Pokeweed, *Phytolacca americana* ²²

CACTACEAE – Cactus Family

- Night-blooming Cereus, *Cereus pentagonus* ** 22
- Nipple Cactus, *Coryphantha sulcata* ⊙③¹¹
- Strawberry Pitaya, *Echinocereus enneacanthus* ⊙③⑤
- Button Cactus, *Epithelantha micromeris micromeris* ⊙⁵⁸
- White Lace Cactus, *Echinocereus reichenbachii* var. *reichenbachii* (also***) ⊙③⑥
- Claret Cup Cactus, *Echinocereus triglochidiatus* (also***) ⊙☞③⑤
- Hedgehog Cactus, *Ferocactus setispinus* *** ⊙⑥
- Barrel Cactus [monstrose], *Ferocactus wislizenii* ** 18
- Spineless Prickly Pear, *Opuntia ficus-indica* ** 16
- Cane Cholla, *Opuntia imbricata* ** 16
- Tasajillo, *Opuntia leptocaulis* ⊙⁵⁸
- Klein Cholla, *Opuntia kleiniae* ** 69
- Engelmann’s Prickly Pear, *Opuntia lindheimeri* ⊙③⑤
- Orange Prickly Pear, *Opuntia macrorhiza* ⑤
- White-spined Prickly Pear, *Opuntia X edwardsii/mackensenii* var. *mackensenii* ⊙⁶⁹

Order NYMPHAEALES – Pond Lilies

NYMPHAEACEAE – Cow Lily Family

- Yellow Pond Lily/Cow Lily/Spatterdock, *Nuphar luteum macrophyllum* ⊙□⁴

CABOMBACEAE – Fanwort Family

- cf. Carolina Fanwort, *Cabomba caroliniana* ¹⁶

Order RANUNCULALES

RANUNCULACEAE – Buttercup Family

- Windflower, *Anemone heterophylla* ⊙¹⁰
- Red Columbine, *Aquilegia canadensis* ** 21
- Yellow Columbine, *Aquilegia chrysantha* ** 16
- Old Man’s Beard, *Clematis drummondii* ⊙③⑥
- Purple Leatherflower, *Clematis pitcheri* ⊙¹⁷
- Scarlet Leatherflower, *Clematis texensis* ■ ⊙∞③¹⁴

BERBERIDACEAE – Barberry Family

- Agarita, *Berberis trifoliolata* ③⑤
- Nandina, *Nandina domestica* ** ☼¹⁶

MENISPERMACEAE – Moonseed Family

- Carolina Snailseed, *Cocculus carolina* ③¹¹

PAPAVERACEAE – Poppy Family

- Yellow/Mexican Prickly Poppy, *Argemone mexicana* ⊙□③¹¹
- White Prickly Poppy, *Argemone* sp. (*A. aurantiaca*?) ⊙③¹¹

Order LAURALES

LAURACEAE – Laurel Family

- Spicebush, *Lindera benzoin* ③⑤

Order BRASSICALES

BRASSICACEAE – Mustard Family

- Wedgeleaf Draba, *Draba cuneifolia* ③¹⁶
- Virginia Peppergrass, *Lepidium virginicum* ¹⁶

- Plateau Bladderpod, *Lesquerella recurvata* ◉③¹¹
- Water-Cress, *Nasturtium officinale* (*Rorippa nasturtium-aquaticum*) *□③⑤
- Redstem Mustard sp. ◉¹¹

Order SAXIFRAGALES

CRASSULACEAE – Hen and Chickens Family

- Jade Tree, *Crassula ovata* **21
- Sedum, *Sedum morganianum* **18
- Yellow Stonecrop, *Sedum nuttallianum* ③
- Arborescent Hen & Chickens, *Sempervivum arborescens* **20

HALORAGIDACEAE – Water Milfoil Family

- Water Milfoil sp., *Myriophyllum* sp. *(?)¹⁷

Order CORNALES

HYDRANGEACEAE – Saxifrage Family

- Texas Mock-Orange, *Philadelphus texensis* □◉☞□③⑤

LOASACEAE – Stickleaf Family

- Stinging Stickleaf, *Cevallia sinuata* ¹⁶
- [Rocknettle, *Eucnide bartonioides* [probable ☞] ²¹

Order PROTEALES

PLATANACEAE – Windseed Family

- Western Sycamore, *Platanus occidentalis* ◉③⑤

POLYGALACEAE – Milkwort Family

- Lindheimer Milkwort, *Polygala lindheimeri* ☞③¹⁴

Order FABALES

FABACEAE – Bean Family

- Roemer's Catclaw Acacia, *Acacia roemeriana* ◉③¹¹
- Huisache, *Acacia smallii* (*A. miniata*, *A. farnesiana*) ☞◉③⑥

- Indigobush sp., *Amorpha* sp. ☞☞◉□⑤
- Pride of Barbados/Poinciana, *Caesalpinia pulcherrima* **²²
- Texas Redbud, *Cercis canadensis* var. *texensis* ③¹¹
- Golden Dalea, *Dalea aurea* ¹⁸
- Bundleflower sp., *Desmanthus* sp. □⁴
- Texas Kidneywood, *Eysenhardtia texana* ③⑥
- Plateau Indigo, *Indigofera lindheimeriana* ☞²¹
- Scarlet Pea, *Indigofera miniata* ◉¹⁶
- Texas Bushclover, *Lespedeza texana* ③²¹
- Texas Bluebonnet, *Lupinus texensis* ③
- Least Bur-Clover, *Medicago minima* ◉③¹¹
- Fragrant Pink Mimosa, *Mimosa borealis* ◉☞③¹¹
- Honey Mesquite, *Prosopis glandulosa* ③⑥
- Brown-flowered Psoralea, *Psoralea rhombifolia* ¹¹
- Texas Snoutbean, *Rhynchosia senna texana* ¥◉☞□⁴
- Lindheimer Senna, *Senna (Cassia) lindheimeriana* ◉③⑤
- Twoleaf Senna, *Senna (Cassia) roemeriana* ③¹¹
- Eve's Necklace, *Sophora affinis* ◉☞⑨
- Texas Mountain-Laurel/Mescalbean, *Sophora secundiflora* ◉☞☞③⑤
- Leavenworth Vetch, *Vicia leavenworthii* ◉☞③¹¹
- Pink Milkpea sp., cf. *Galactia* sp. ◉²²
- Sensitive-Briar sp. □⁴
- Little Yellow Pea sp. ⁶⁹

Subfamily FABOIDEAE

Tribe DESMODIEAE

- Southwest Tick-Trefoil, *Desmodium paniculatum* ☞²¹
- Panickedleaf Tick-Trefoil, *Desmodium psyllophyllum* ²¹

Tribe MILETTIEAE

- Wisteria, *Wisteria* cf. *sinensis* ²²

Order GERANIALES

GERANIACEAE – Geranium Family

- Geranium, *Pelargonium x hortorum* (*P. zonale* X *P. inquinans*) ** 22

Order OXALIDALES

OXALIDACEAE – Sorrel Family

- Yellow Woodsorrel/Common Sour-Clover, *Oxalis dillenii* ○③⑤
- Purple Woodsorrel, *Oxalis drummondii* □⑥
- White Woodsorrel sp., *Oxalis* sp. 22

Order APIALES

RUTACEAE – Rue Family

- Wafer Ash/Hoptree, *Ptelea trifoliolata* □⑤

SIMAROUBACEAE – Paradise Tree Family

- Tree of Heaven, *Ailanthus altissima* *16

MELIACEAE – Chinaberry Family

- Chinaberry, *Melia azedarach* *11

APIACEAE – Umbel Family

- Prairie Bishop's Weed, *Bifora americana* 16
- Chervil, *Chaerophyllum tainturieri* ③
- Texas Parsley, *Polytaenia texana* ■○□✿14
- Smooth Scaleseed, *Spermolepis inermis* ③
- Sockbane, *Torilis arvensis* ○③16
- Wild Carrot sp. 11

ARALIACEAE -- Aral Family

- English Ivy, *Hedera helix* **20
- Water Pennywort, *Hydrocotyle verticillata* ✿③⑤
- Schefflera, *Schefflera cf. arboricola* **20

PITTOSPORACEAE – Pittosporum Family

- Pittosporum, *Pittosporum tobira* **20

Order MALPIGHIALES

SALICACEAE – Poplar, Cottonwood and Willow Family

- Lombardy Black Poplar, *Populus nigra* var. *italica* **□4
- cf. Coyote Willow, *Salix* cf. *exigua* 22
- Black Willow, *Salix nigra* 69

LINACEAE – Flax Family

- Stiffstem Flax, *Linum rigidum* var. *berlandieri* ○□4
- Rock/Perennial Flax, *Linum rupestre* ✿○③14

MALPIGHIACEAE – Liana Family

- Narrowleaf Thryallis, *Galphimia (Thryallis) angustifolia* ③

PHYLLANTHACEAE – Leaf-Flower Family

- Knotweed Leaf-Flower, *Phyllanthus polygonoides* ③
- Buckbrush/Maidenbrush, *Andrachne phyllanthoides* ✿¥54

EUPHORBIACEAE – Spurge Family

- Lindheimer's Copperleaf/Three-seeded Mercury, *Acalypha lindheimeri* ③16
- Low Wild Mercury, *Argythamnia humilis* var. *humilis* ③
- Brush Myrtle-croton/Southwestern Bernardia, *Bernardia myricifolia* ③
- Bush Croton, *Croton fruticosus* ③
- Oneseed Croton, *Croton monanthogynus* ③
- Yellow-spot Croton, *Croton muculatum* ** 22
- Veined Croton, *Croton petra* ** 22
- Blackfoot Spurge, *Euphorbia (Chamaesyce) angusta* ■✿③14
- Wild Poinsettia, *Euphorbia (Poinsettia) cyathophora* ○③16
- Toothed Spurge, *Euphorbia (Poinsettia) dentata* ③
- Fendler Spurge, *Euphorbia (Chamaesyce) fendleri* ③
- Large Spotted Spurge, *Euphorbia hypericifolia* ✿21
- Snow-on-the-Mountain/Pasture, *Euphorbia marginata* ③
- Christmas Poinsettia, *Euphorbia poinsettia* ** 22
- Prostrate Spurge, *Euphorbia prostrata* ✿14

- African False Cactus, *Euphorbia nr. resinifera* **18
- Roemer's Spurge, *Euphorbia roemeriana* □⁴
- Spurge sp., *Euphorbia trichocarpa* ²¹
- Hairy Sandmat, *Euphorbia (Chamaesyce) villifera* *²¹
- Smartweed Leaf-Flower, *Phyllanthus polygonoides* ²¹
- Texas Queen's-Delight, *Stillingia texana* ③¹⁵
- Climbing Noseburn, *Tragia brevispica* *³14
- Black Noseburn, *Tragia nigricans* *²¹
- Common Noseburn, *Tragia ramosa* ③¹⁴

VIOLACEAE – Violet Family

- Whorled Green-Violet, *Hybanthus verticillatus* ③¹⁴
- Pansy, *Viola tricolor* **11

PASSIFLORACEAE – Passionflower Family

- Yellow Passionflower, *Passiflora affinis* □³⑤
- Texas Passionflower, *Passiflora incarnata* **18
- Slenderlobe Passionflower, *Passiflora tenuiloba* ⊙³

Order AEQUIFOLIALES

AEQUIFOLIACEAE – Holly Family

- Dwarf Yaupon, *Ilex vomitoria nana* [Shillings] **²²

Order SAPINDALES

ANACARDIACEAE – Pistachio Family

- Chinese Pistache, *Pistacia chinensis* **16
- Prairie Flameleaf Sumac, *Rhus lanceolata* ③⑤
- Poison Oak, *Rhus toxicodendron* var. *eximia* ♀³⑤
- Poison Ivy, *Rhus toxicodendron* var. *toxicodendron* ♀³⑤
- Skunkbush/Aromatic Sumac, *Rhus trilobata* var. *trilobata* (*R. aromatica* var. *flabelliformis*) ③⑤
- Evergreen Sumac, *Rhus virens* ③¹¹
- Smoketree, *Cotinus obovatus* ⊙⁷⁵

SAPINDACEAE – Maple Family

- Rocky Mountain Bigtooth Maple, *Acer grandidentatum* var. *grandidentatum* (also ***) ③⑤
- Yellow (Red) Buckeye, *Aesculus pavia* var. *flavescens* ☞³⑤
- Soapberry, *Sapindus drummondii* ⑤
- Mexican Buckeye, *Ungnadia speciosa* ③⑤

Order VITALES

VITACEAE – Grape Family

- Ivy Treebane/Cow-Itch, *Cissus incisa* ③
- Virginia Creeper, *Parthenocissus quinquefolia* ③⑤
- cf. Thicket Creeper, *Parthenocissus* cf. *vitacea* ⊙¹⁶
- Three-leaf Creeper sp., *Parthenocissus* sp. ²²
- Berlandier's Grape, *Vitis cinerea* (*V. berlandieri*) ③¹¹
- Mountain Grape, *Vitis monticola* ♀*³14
- Muscadine Grape-complex, *Vitis* sp. ²²

Order MALVALES

MALVACEAE – Mallow Family

- Indian Mallow, *Abutilon incanum* ⊙¹²
- Standing Winecup, *Callirhoe digitata* ⊙¹⁴
- Hibiscus sp., *Hibiscus* sp. **18
- Turk's Cap, *Malvaviscus arborea* **18
- Creeping Yellow Sida, *Sida abutilifolia* (*S. filicaulis*) ⊙³11
- Carolina Basswood, *Tilia americana* var. *caroliniana* ¹⁵

Order MYRTALES

MYRTACEAE – Myrtle Family

- Red Bottlebrush, *Callistemon citrinus* **⊙☞¹²

LYTHRACEAE – Myrtle Family

- Crepe Myrtle, *Lagerstroemia indica* **⑤
- Plateau/Stream Loosestrife, *Lythrum ovalifolium* ♀?⊙?∞¥³⑤
- Mexican Heather, *Cuphea hyssopifolia* **88

ONAGRACEAE – Primrose Family

- Limestone Gaura, *Gaura calcicola* ◉□⁴
- Scarlet Gaura, *Gaura coccinea* ◉¹⁵
- Water-Primrose, *Ludwigia octovalvis octovalvis* ²¹
- Pink Evening-Primrose/Rose of Mexico, *Oenothera rosea* ◉³⁷
- Showy Pink Evening-Primrose, *Oenothera speciosa* ◉□⁵
- Western Primrose, *Calylophus hartwegii* ³⁸

Order GARRYALES

GARRYACEAE – Silk-Tassel Family

- Lindheimer's/Mexican Silk-tassel, *Garrya ovata* var. *lindheimeri* ◉③⑤

Order ERICALES

ERICACEAE – Strawberry Tree Family

- Texas Madrone, *Arbutus xalapensis* ¹⁴

SAMOLACEAE – Brook-Primrose Family

- Largeflower Brook-Primrose, *Samolus cuneatus* ✿③¹⁴
- Smallflower Brook-Primrose, *Samolus parviflorus* ③

SAPOTACEAE – Chittamwood Family

- Gum Bumelia, *Sideroxylon (Bumelia) lanuginosa* ◉③⑥

EBENACEAE – Persimmon Family

- Texas Persimmon, *Diospyros texana* ◉③⑤

POLEMONIACEAE – Phlox Family

- Cutleaf Gilia, *Gilia incisa* ③
- Drummond's Phlox, *Phlox drummondii* ◉¹¹

Order GENTIANALES

GELSEMIACEAE – Jessamine Family

- Carolina Jessamine, *Gelsemium sempervirens* ^{** 22}

GENTIANACEAE – Gentian Family

- Mountain Pink, *Centaurium beyrichii* ¹⁷
- Rosita, *Centaurium calycosum* ③

APOCYNACEAE – Dogbane Family

- Antelopehorns Milkweed, *Asclepias asperula* ◉③¹¹
- Hierba de Zizotes, *Asclepias oenotherioides* ③
- Texas Milkweed, *Asclepias texana* □⁵
- Milkweed Vine, *Cynanchum barbigerum* □◉⁶
- Milkweed Vine, *Cynanchum racemosum* ²¹
- Chilean Jasmine, *Mandevilla suaveolens* ^{** 22}
- Star Milkvine, *Matelelea biflora* ²¹
- Pearl Milkvine, *Matelelea reticulata* ◉□③⑤

RUBIACEAE – Bluet Family

- Western Buttonbush, *Cephalanthus occidentalis* ③⑤
- Texas Bedstraw, *Galium texense* ③
- Wand Bedstraw, *Galium virgatum* ③
- Bluets sp., *Hedyotis* sp. □⁵
- Pentas, *Pentas lanceolata* ^{** 18}
- Gardenia (August Beauty), *Gardenia jasminoides* ^{** 88}
- Ixora (Maui Red), *Ixora coccinea* ^{** 88}

Order SOLANALES

CONVOLVULACEAE – Morning Glory Family

- New Mexico Ponyfoot, *Dichondra brachypoda* ◼✿¹⁴
- Silky Evolvulus, *Evolvulus* sp. □⁶
- White Evolvulus, *Evolvulus sericeus* ◉¹⁵
- Lindheimer's Morning Glory, *Ipomoea lindheimeri* ◉¹⁶
- Morning Glory, *Ipomoea* cf. *purpurea* ^{**18}
- Purple Bindweed, *Ipomoea trichocarpa* ¹¹
- White and Rose Bindweed sp., *Ipomoea* sp. □⁴
- Pink Bindweed, *Convolvulus equitans* ◉□¹

HYDROPHYLLACEAE – Bellwort Family

- Fiddleleaf Nama, *Nama jamaicense* ③²¹

- Blue-Curls, *Phacelia congesta* ◉□⁴

SOLANACEAE – Nightshade Family

- Chilipitin, *Capsicum annuum* ***²⁰
- Pepper [Purple Beauty], *Capsicum annuum* cult. ²¹
- False Nightshade sp., *Chamaesaracha* sp. □⁴
- Jimsonweed, *Datura stramonium* ③²³
- Fiddleleaf Tobacco, *Nicotiana repanda* ③
- Tall Tobacco sp., *Nicotiana* sp. ¹⁸
- Wild Petunia, *Petunia parviflora* 🌸¹⁴
- Common Petunia, *Petunia x hybrida* ◉ **²⁰
- Ground-Cherry, *Physalis* sp. (*P. viscosa*?) ③
- Western Horsenettle, *Solanum dimidiatum* ③¹³
- Silverleaf Horsenettle, *Solanum eleagnifolium* ◉③¹⁵
- Eastern Black Nightshade/West Indian Nightshade, *Solanum ptycanthum* ☠️🌸²¹
- Buffalo Bur, *Solanum rostratum* ¹⁶
- Texas Nightshade, *Solanum triquetrum* ☠️□⁵

Order LAMIALES

OLEACEAE – Olive Family

- Netleaf Elbowbush, *Forestiera reticulata* ◉③¹¹
- Redbud, *Menodora heterophylla* ◉□⁵
- Japanese Privet, *Ligustrum ovalifolium* **⁸⁹

LOGANIACEAE – Butterflyflower Family

- Butterflybush, *Buddleja marrubifolia* **¹⁸
- Wand Butterflybush, *Buddleja racemosa* 🌸🌸③⑤
- Lax Hornpod, *Cynoctonum mitreola* ²¹

VERBENACEAE – Vervain Family

- American Beautyberry, *Callicarpa americana* ²²
- Texas Lantana, *Lantana horrida* ***¹⁶
- Desert Lantana, *Lantana camara* ***⁸⁸

- Frogfruit, *Phyla incisa* ◉¹⁶

- Dakota Vervain, *Verbena bipinnatifida* ◉③⑤
- Brazilian Vervain, *Verbena brasiliensis* *◉¹⁷
- Gray Vervain, *Verbena canescens* ◉③¹¹
- Texas Vervain, *Verbena halei* ¹⁷
- Pink Vervain, *Verbena pumila* ◉🌸¹⁴

LAMIACEAE – Mint Family

- Prairie Brazoria, *Brazoria scutellarioides* ◉¹⁶
- Annual Pennyroyal, *Hedeoma acinioides* ◉🌸③¹¹
- Mock Pennyroyal/Limoncillo, *Hedeoma drummondii* ◉③¹⁴
- White Pennyroyal sp., *Hedeoma* sp. ◉¹¹
- Common Horehound, *Marrubium vulgare* *③¹³
- Spearmint, *Mentha spicata* *◉¹⁵
- Lemon Beebalm, *Monarda citriodora* ¹⁷
- Rosemary, *Rosmarinus officinalis* **⑥
- Blue Anise Sage (Black and Blue), *Salvia guaranitica* **⁸⁸
- Mejorano/Shrubby Blue Sage, *Salvia ballotaeflora* □⁵
- Mexican Red Sage, *Salvia darcyi* *²⁵
- Mealy Sage, *Salvia farinacea* ◉③⑥
- Red Sage, *Salvia greggii* **³⁷
- Purple Spires Sage, *Salvia leucantha* ◉🌸**⑥
- Firecracker Sage, *Salvia* sp. ◉*⁸⁸
- Annual/Drummond's Skullcap, *Scutellaria drummondii* ◉③¹¹
- Coleus, *Solenostemon scutellarioides* **¹⁸
- Small-flowered Stachys, *Stachys agraria* 🌸¹⁴
- American Germander, *Teucrium canadense* □⁵
- Chaste-Tree/Mediterranean Beach-Holly, *Vitex agnus-castus* *(**)¹⁴
- Brazilian purple mint sp. **²⁰

GESNERIACEAE – Gesneriad Family

- African Violet, *Saintpaulia ionanatha* **¹⁸

SCROPHULARIACEAE – Monkeyflower Family

- Purple Sage, *Leucophyllum frutescens* ¹⁶

- Green Cloud Sage, *Leucophyllum frutescens* cult. **15
- Narrowleaf Paleseed, *Leucospora multifida* ²¹
- Yellow Mecardonia, *Mecardonia procumbens* (*M. vandellioides*) ^③
- Common/Woolly Mullein, *Verbascum thapsus* *^③^⑤
- Wandering Veronica, *Veronica peregrina* ^③
- European Scroph sp. *^④¹⁴

BIGNONIACEAE – Bignonia Family

- Trumpet Creeper, *Campsis radicans* ***16
- Catalpa, *Catalpa bignonioides* **16
- Desert Willow, *Chilopsis linearis* **15
- Esperanza, *Tecoma stans* **22

ACANTHACEAE – Wild Petunia Family

- Torrey's Carlowrightia, *Carlowrightia torreyana* ^④^③¹⁴
- Carlowrightia sp., *Carlowrightia* sp. ^④²¹
- American Water-willow, *Justicia americana* ¹⁶
- Wild Petunia sp., *Ruellia* sp. ¹⁴

PLANTAGINACEAE – Sage Family

- Snapdragon, *Antirrhinum majus* */**21
- Snapdragon Vine, *Maurandya antirrhiniflora* ^④^③¹⁶
- Redseed Plantain, *Plantago rhodosperma* ^④^③¹⁶
- Paleseed Plantain, *Plantago virginica* ^④⁴
- Pink Foxglove, *Digitalis* sp. ^④^{** 88}

Order DIPSACALES

CAPRIFOLIACEAE – Honeysuckle Family

- White Bush-Honeysuckle, *Lonicera albiflora* [□]^③^⑤
- Coral Honeysuckle, *Lonicera sempervirens* **18

Order CUCURBITALES

CUCURBITACEAE – Gourd Family

- Buffalo Gourd, *Cucurbita foetidissima* ¹⁶
- Balsam-Gourd/Snake-Apple, *Ibervillea lindheimeri* ¹⁵

BEGONIACEAE – Begonia Family

- Waxleaf Begonia, *Begonia* sp. **20

Order ASTERALES

CAMPANULACEAE – Bluebell Family

- Cardinalflower, *Lobelia cardinalis* ^④^⑥
- Western Venus' Looking-Glass, *Triodanis coloradoensis* ^③
- Venus' Looking-Glass, *Triodanis perfoliata* ^④^③¹⁴

ASTERACEAE – Sunflower Family

- Lazy Daisy sp., *Aphanostephus* sp. cf. *skirrhobasis* ^④¹¹
- Hierba del Marrano, *Aster subulatus* ^④²¹
- Rooseveltweed/Baccharis, *Baccharis neglecta* ^③¹¹
- Beggar's Ticks, *Bidens frondosa* ^③
- Brickellbush, *Brickellia cylindracea* ^③
- Straggler Daisy, *Calyptocarpus vialis* ^④[□]^③¹⁴
- Bullthistle/Nodding Thistle, *Carduus nutans* *^③^⑤
- Slender Bristle-thistle, *Carduus tenuiflorus* ^④^③¹¹
- Distaff/Saffron Thistle, *Carthamus lanatus* *^④¹⁷
- Malta/Yellow Star-thistle, *Centaruea melitensis* *^③¹⁴
- Hairy Least-Daisy/Dwarf White Aster, *Chaetopappa bellidifolia* [□]^④^③¹¹
- Spreading Least-Daisy, *Chaetopappa effusa* ^④[□][∞]^③¹¹
- Silverpuff/Nodding Lettuce, *Chaptalia texana* (*C. nutans*) ^③¹¹
- Chrysanthemum, *Chrysanthemum x monifolium* (*C. indica* X *C. sp.*) ^④^{**22}
- Texas Thistle, *Cirsium texanum* ^④^③¹⁶
- Plumed Thistle, *Cirsium undulatum* ¹⁸
- Parralena, *Dyssodia pentachaeta* ^④¹⁴
- Purple Coneflower, *Echinacea purpurea* *** 22
- Engelmann's Daisy, *Engelmannia pinnatifida* ^④¹¹
- Plains/Prairie Fleabane, *Erigeron modestus* ^④^③¹¹

- Shrubby Boneset/Thoroughwort, *Eupatorium havanense* ☞ ③ ⑤
- White Snakeroot, *Eupatorium rugosum* ③
- Late Boneset, *Eupatorium serotinum* ③
- Flathead Rabbit-Tobacco, *Evax prolifera* ③
- Roundhead Rabbit-Tobacco, *Evax verna* ③¹¹
- Indian Blanket, *Gaillardia pulchella* ①¹⁴
- Pinchusion Daisy, *Gaillardia suavis* ① ③¹¹
- Fragrant Cudweed, *Gnaphalium obtusifolium* ③¹⁶
- Creekside Sneezeweed, *Helenium elegans* ③ ⑤
- Common Sunflower, *Helianthus annuus* ¹²
- Maximilian Sunflower, *Helianthus maximiliani* ☞²¹
- Woolly-White/Old Plainsman, *Hymenopappus scabiosaeus* ①¹⁴
- Slenderleaf Hymenoxys, *Hymenoxys linearifolia* ①¹⁶
- cf. Western Dwarf Dandelion, *Krigia* cf. *occidentalis* ☞²¹
- Curly Lettuce, *Lactuca sativa* **¹⁶
- Texas Skeletonplant, *Lygodesmia texana* ③
- Lindheimer's Rock-Daisy, *Perityle lindheimeri* ① ☞ ③ ⑤
- White Rock-Lettuce, *Pinaropappus roseus* ① ③ ⑤
- Texas Dandelion, *Pyrrhopappus multicaulis* ①¹⁴
- Mexican Hat, *Ratibida columnaris* ③¹⁴
- Streamside Goldenrod, *Solidago juliae* ☞ ③¹⁶
- Sow-Thistle, *Sonchus asper* ① ③¹⁴
- Tall Sow-thistle sp., cf. *Sonchus* sp. ** ¹⁸
- Dandelion, *Taraxacum officinale* *¹⁶
- Greenthread, *Thelesperma filifolium* ①¹²
- Navajo Tea, *Thelesperma simplicifolium* ¹⁸
- Cowpen Daisy, *Verbesina encelioides* □ ① ☞¹⁴
- Frostweed/Iceplant, *Verbesina virginica* ① ③ ⑤
- Hairy Zexmenia, *Wedelia (Zexmenia) hispida* ① ③ ¹⁴
- Cocklebur sp., *Xanthium* sp. □⁴
- Little Bushy Yellow Comp sp. ** ¹⁷
- Button-flowered Comp sp. ** ¹⁸
- Silverleaf Comp. sp. ① ** ⁸⁸

Subfamily TAGETEAE

- Marigold, *Tagetes erecta* cf. *X patula* */**²¹
- Copper Canyon Daisy, *Tagetes lemmonii* ☞ ** ⑧

Unknown

- Tiny white tube flower on recumbent plant ①¹⁵
- Small Palmate Pseudo-aquatic Plant sp. ¥¹⁶
- Little Blue Phacelia-like flower on linear-leaved plant ①¹⁷
- White-flowered Shrub **¹⁸
- Asian Cane sp. **¹⁸

APPENDIX I -- Species not yet located on the site, but which, because of known proximity, should be looked for:

- Moore's Toothsnail, *Polygyra mooreana*
- Cactus Snail sp., *Rabdotus* cf. *dealbatus*

- Coral-fronted Threadtail, *Neoneura aaroni*
- Rambur's Forktail, *Ischnura ramburii*
- Neotropical Bluet, *Enallagma novaehispaniae*
- Comanche Dancer, *Argia barretti*
- Lavender Dancer, *Argia hinei*
- Leonora's Dancer, *Argia leonora*

- Soapberry Haristreak, *Phaeostrymon alcestis alcestis* (W.H. Edwards)
- Gray Ministreak, *Ministrymon azia* (Hewitson)
- Eastern (Texan) Tailed Blue, *Cupido comyntas texana* (F. Chermock)

- Short-tailed Hawk, *Buteo brachyurus*
- Green Jay, *Cyanocorax yncas*
- Bell's Vireo, *Vireo bellii*
- Olive Sparrow, *Arremonops rufivirgatus*

- Siler's Tuberose, *Manfreda sileri*
- Tobusch's Fishhook Cactus, *Ancistrocactus tobuschii*
- White Polygala, *Polygala alba*
- Seven-leaf Creeper, *Parthenocissus heptaphylla*
- Vasey Oak, *Quercus vaseyana*
- Roughleaf Dogwood, *Cornus drummondii*
- Lady Bird's Centaury, *Centaurium texense*
- Basketflower, *Centaurea americana*
- Golden-ball Leadtree, *Leucaena retusa*
- Dodder, *Cuscuta* sp.
- Heller's Penstemon, *Penstemon helleri*
- Woolly Ironweed, *Vernonia lindheimeri*

APPENDIX II – Rare, endemic and/or special species endemic to the Edwards Plateau to be sought on the property:

- Siler's Tuberose, *Manfreda sileri*
- Texas Snowbells, *Styrax platanifolia* ssp. *texana*
- Sycamore-leaf Snowbells, *Styrax platanifolia* ssp. *platanifolia*
- Bracted Twistflower, *Streptanthus bracteatus*
- Tobusch's Fishhook Cactus, *Ancistrocactus tobuschii*
- Heller's Penstemon, *Penstemon helleri*

APPENDIX III – Species known from adjacent property (HEB Foundation Camp, Real County), but not yet recorded at Big Springs Ranch:

- Neotenic Salamander sp. 7b, *Eurycea* sp.

- Crossvine, *Bignonia capreolata*

APPENDIX IV – Species reported from adjacent property (Lost Maples State Natural Area, Bandera County), but not yet recorded at Big Springs Ranch:

- White-M Hairstreak, *Parrahsius m-album* (Boisduval & Leconte)
- Marine Blue, *Leptotes marina* (Reakirt)
- Henry's (Sooty) Elfin, *Callophrys (Incisalia) henrici solatus* (Cook & Watson)
- Rounded Metalmark, *Calephelis perditalis perditalis* Barnes & McDunnough
- Mourning Cloak, *Nymphalis antiopa antiopa* (Linnaeus)
- Little Wood Satyr, *Megisto cymela cymela* (Cramer)
- Carolina Satyr, *Hermeuptychia sosybius* (Fabricius)
- Empress Leilia, *Asterocampa leilia* (W.H. Edwards)
- Two-barred Flasher complex sp., *Astrartes* nr. *fulgurator*
- Texas Powdered Skipper, *Systasea texana*

- Leonora's Dancer, *Argia leonorae*
- Giant Darner, *Anax walsinghami*
- Russet-tipped Clubtail, *Stylurus plagiatus*
- Plains Clubtail, *Gomphus*
- River Cruiser sp., *Macromia* sp.
- Stripe-winged Baskettail, *Epithea costalis*
- Great Pondhawk, *Erythemis*
- Carmine Skimmer, *Orthemis discolor*

- Rough Green Snake, *Opheodrys aestivus*
- Ring-necked Snake

- Pied-billed Grebe, *Podilymbus podiceps*
- Wood Duck, *Aix sponsa*
- American Wigeon, *Anas americana*
- Mississippi Kite, *Ictinia mississippiensis*
- Bald Eagle, *Haliaeetus leucocephalus*
- Common Black-Hawk, *Buteogallus anthracinus*
- Broad-winged Hawk, *Buteo platypterus*
- Short-tailed Hawk, *Buteo brachyurus*
- Gray Hawk, *Buteo nitidus*
- Ferruginous Hawk, *Buteo regalis*
- Golden Eagle, *Aquila chysaetos*
- Peregrine Falcon, *Falco peregrinus*
- Purple Gallinule, *Porphyrio martinica*
- Upland Sandpiper, *Bartramia longicauda*
- Groove-billed Ani, *Crotophaga sulcirostris*
- Barred Owl, *Strix varia*
- Lesser Nighthawk, *Chordeiles acutipennis*
- Whip-poor-will, *Caprimulgus vociferus*
- Rufous Hummingbird, *Selasphorus rufus*
- Red-naped Sapsucker, *Sphyrapicus nuchalis*
- Brown-crested Flycatcher, *Myiarchus tyrnnulus*
- Loggerhead Shrike, *Lanius ludovicianus*
- Bell's Vireo, *Vireo bellii*
- Philadelphia Vireo, *Vireo philadelphicus*

- Blue Jay, *Cyanocittta cristata*
- White-breasted Nuthatch, *Sitta carolinensis*
- Red-breasted Nuthatch, *Sitta canadensis*
- Brown Creeper, *Certhia americana*
- Cactus Wren, *Campylorhynchus brunneicapillus*
- Mountain Bluebird, *Sialia currucoides*
- Townsend's Solitaire, *Myadestes townsendi*
- Swainson's Thrush, *Catharus ustulatus*
- Long-billed Thrasher, *Toxostoma longirostre*
- European Starling, *Sturnus vulgaris*
- Spargue's Pipit, *Anthus spragueii*
- Blue-winged Warbler, *Vermivora pinus*
- Golden-winged Warbler, *Vermivora chrysoptera*
- Tennessee Warbler, *Vermivora peregrina*
- Townsend's Warbler, *Dendroica townsendi*
- Blackburnian Warbler, *Dendroica fusca*
- Blackpoll Warbler, *Dendroica striata*
- Cerulean Warbler, *Dendroica cerulea*
- American Redstart, *Setophaga ruticilla*
- Prothonotary Warbler, *Protonotaria citrea*
- Worm-eating Warbler, *Helmitheros vermivorum*
- Ovenbird, *Seiurusaurocapilla*
- Northern Waterthrush, *Seiurus noveboracensis*
- Kentucky Warbler, *Oporornis formosus*
- Mourning Warbler, *Oporornis philadelphia*
- MacGillivray's Warbler, *Oporornis tolmiei*
- Canada Warbler, *Wilsonia canadensis*
- Painted Redstart, *Myioborus pictus*
- Rufous-capped Warbler, *Balisleuterus rufifrons*
- Black-throated Sparrow, *Amphispiza bilineata*
- Lark Bunting, *Calamospiz melanocorys*
- Swamp Sparrow, *Melospiza georgiana*
- White-throated Sparrow, *Zonotrichia albicollis*
- Chestnut-collared Longspur, *Calcarius ornatus*
- Black-headed Grosbeak, *Pheucticus melanocephalus*
- Brewer's Blackbird, *Euphagus cyanocephalus*

- Bullock's Oriole, *Icterus bullockii*
- Purple Finch, *Carpodacus purpureus*
- Red Crossbill, *Loxia curvirostra* (species complex)

- Tobusch's Fishhook Cactus, *Ancistrocactus tobuschii*
- Texas Snowbells, *Styrax platanifolia* ssp. *texana*
- Plateau Milkvine, *Matelea edwardsensis*
- Cedar Sage, *Salvia roemeriana*
- Colorado Venus' Looking Glass, *Triodanis coloradoensis*
- Scarlet Penstemon, *Penstemon triflorus*
- Eggleaf Skullcap, *Scutellaria ovata*
- Rough Gromwell, *Lithospermum matamorensense*
- Damianita, *Chrysactinia mexicana*
- Kunth Sundrops, *Oenothera kunthiana*

APPENDIX IV – Species reported from near-adjacent property (Brushy Creek Ranch, Bandera County), but not yet recorded at Big Springs Ranch:

- Lavender Dancer, *Argia hinei*

- Baird's Sparrow, *Ammodramus bairdii*

APPENDIX VI -- Species listed as available via Priour Ranch for hunters:

@ no evidence that this taxon has been released on property yet

- Wild Turkey, *Meleagris gallopavo*

- White-tailed Deer, *Odocoileus virginianus texanus*
- Axis Deer, *Axis axis*
- Hog Deer, *Axis porcinus* @
- Barasingha, *Cervus duvaucelii* @
- Dybowski Sika, *Cervus nippon dybowskii* @
- Eld's Deer, *Cervus eldii* @
- Red Deer, *Cervus elephas*

- Pere David's Deer, *Elaphurus davidianus* @
- Fallow Deer, *Dama dama dama*
- Afghan Ural Sheep, *Ovis ammon gmelini*
- Iranian Red Sheep, *Ovis ammon gmelini*
- Texas Dall Sheep, *Ovis musimon* var. @
- Hawaiian Black Sheep, *Ovis musimon* var. @
- Corsican Sheep, *Ovis musimon*
- Armenian Mouflon, *Ovis orientalis*
- European Mouflon, *Ovis orientalis*
- Aoudad, *Ammotragus lervia*
- Markhor, *Capra falconeri* @
- Catalina Goat, *Capra hircus* var. @
- American Bison, *Bison bison* @
- Blackbuck, *Antilope cervicapra*
- Red Lechwe, *Kobus leche* @
- Persian Gazelle, *Gazella subgutturosa* @
- Scimitar-horned Oryx, *Oryx dammah* @

Appendix VII -- Nueces River Drainage Fish Species from Texas Freshwater Fishes

[<http://www.bio.txstate.edu/~tbonner/txfishes/>] – The Frio River is in the Nueces Drainage, so all the fishes of the Ranch should be on this list; however the list contains many species that should not/do not occur in the Frio, at least in the headwaters vicinity . . . thus, this is NOT a list of fishes found at the Ranch. We are in the process of arranging for a sampling of Ranch fish species and identification at the Heart of the Hills Fisheries Research Center.

| | | |
|----------------------|------------------------------------|---------------|
| Lepisosteidae | <u><i>Atractosteus spatula</i></u> | alligator gar |
| | <u><i>Lepisosteus oculatus</i></u> | spotted gar |
| | <u><i>Lepisosteus osseus</i></u> | longnose gar |
| Anguillidae | <u><i>Anguilla rostrata</i></u> | American eel |

| | | | | | |
|---------------------|---------------------------------------|---------------------|-----------------------------------|--------------------------------------|-----------------------|
| Clupeidae | <u><i>Dorosoma cepedianum</i></u> | gizzard shad | <u><i>Noturus gyrinus</i></u> | tadpole madtom | |
| | <u><i>Dorosoma petenense</i></u> | threadfin shad | <u><i>Pylodictis olivaris</i></u> | flathead catfish | |
| Cyprinidae | <u><i>Campostoma anomalum</i></u> | central stoneroller | Salmonidae | <u><i>Oncorhynchus mykiss</i></u> | rainbow trout |
| | <u><i>Carassius auratus</i></u> | goldfish (i) | Atherinopsidae | <u><i>Menidia beryllina</i></u> | inland silverside |
| | <u><i>Cyprinella lutrensis</i></u> | red shiner | Fundulidae | <u><i>Lucania parva</i></u> | rainwater killifish |
| | <u><i>Cyprinella venusta</i></u> | blacktail shiner | | | western |
| | <u><i>Cyprinus carpio</i></u> | common carp (i) | Poeciliidae | <u><i>Gambusia affinis</i></u> | mosquitofish |
| | <u><i>Dionda episcopa</i></u> | roundnose minnow | | <u><i>Poecilia formosa</i></u> | Amazon molly |
| | <u><i>Notemigonus crysoleucas</i></u> | golden shiner | Cyprinodontidae | <u><i>Poecilia latipinna</i></u> | sailfin molly |
| | <u><i>Notropis amabilis</i></u> | Texas shiner | ae | <u><i>Cyprinodon variegatus</i></u> | sheepshead minnow |
| | <u><i>Notropis buchanani</i></u> | ghost shiner | Moronidae | <u><i>Morone chrysops</i></u> | white bass |
| | <u><i>Notropis texanus</i></u> | weed shiner | | | redbreast sunfish (i) |
| | <u><i>Notropis volucellus</i></u> | mimic shiner | Centrarchidae | <u><i>Lepomis auritus</i></u> | green sunfish |
| | <u><i>Opsopoeodus emiliae</i></u> | pugnose minnow | | <u><i>Lepomis cyanellus</i></u> | warmouth |
| | <u><i>Pimephales promelas</i></u> | fathead minnow | | <u><i>Lepomis gulosus</i></u> | orangespotted sunfish |
| | <u><i>Pimephales vigilax</i></u> | bullhead minnow | | <u><i>Lepomis humilis</i></u> | bluegill |
| Catostomidae | <u><i>Carpionodes carpio</i></u> | river carpsucker | | <u><i>Lepomis macrochirus</i></u> | longear sunfish |
| | <u><i>Cycleptus elongatus</i></u> | blue sucker | | <u><i>Lepomis megalotis</i></u> | redear sunfish |
| | <u><i>Ictiobus bubalus</i></u> | smallmouth buffalo | | <u><i>Lepomis microlophus</i></u> | redspotted sunfish. |
| | <u><i>Moxostoma congestum</i></u> | gray redhorse | | <u><i>Lepomis miniatus</i></u> | smallmouth bass (i) |
| Characidae | <u><i>Astyanax mexicanus</i></u> | Mexican tetra | | <u><i>Micropterus dolomieu</i></u> | largemouth bass |
| Ictaluridae | <u><i>Ameiurus melas</i></u> | black bullhead | | <u><i>Micropterus salmoides</i></u> | Guadalupe bass |
| | <u><i>Ameiurus natalis</i></u> | yellow bullhead | | <u><i>Micropterus treculii</i></u> | white crappie |
| | <u><i>Ictalurus furcatus</i></u> | blue catfish | | <u><i>Pomoxis annularis</i></u> | black crappie |
| | <u><i>Ictalurus lupus</i></u> | headwater catfish | | <u><i>Pomoxis nigromaculatus</i></u> | |
| | <u><i>Ictalurus punctatus</i></u> | channel catfish | | | |

| | | |
|-------------------|--|--------------------|
| Percidae | <u><i>Etheostoma gracile</i></u> | slough darter |
| | <u><i>Etheostoma lepidum</i></u> | greenthroat darter |
| Sciaenidae | <u><i>Aplodinotus grunniens</i></u> | freshwater drum |
| Cichlidae | <u><i>Cichlasoma cyanoquttatum</i></u> | Rio Grande cichlid |

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