

ISSN 1061-3781

BULLETIN OF AMERICAN
ODONATOLOGY

Volume 5 Number 1
27 October 1997

THE DRAGONFLIES AND DAMSELFLIES (ODONATA) OF LOUISIANA
Bill Mauffray p 1-26

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¹THE DRAGONFLIES AND DAMSELFLIES (ODONATA) OF LOUISIANA

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ABSTRACT

A comprehensive study of Louisiana dragonflies and damselflies (Odonata) was published by George Bick in 1957, who listed 101 species, including 33 Zygoptera and 68 Anisoptera.

Mulhern (1971), Bick (1978 and 1990), Westfall and Tennesen (1979), and others have added 14 species. There are now 124 taxa, including 33 Zygoptera, and 91 Anisoptera.

INTRODUCTION

A comprehensive study of Louisiana dragonflies and damselflies (Odonata) was published by George Bick in 1957. He listed 101 species, including 33 Zygoptera and 68 Anisoptera. Since then several authors, including Mulhern (1971), Bick (1978 and 1990), Westfall and Tennesen (1979), and others have added 14 species. This paper is an update and supplement to Bick's work based on literature and specimens seen by the author. With 10 additional species and one removed from the list, there are now 124 taxa, including 33 Zygoptera, and 91 Anisoptera. Doubtful records, vagrant species, and a list of species expected in Louisiana are also discussed. Several distribution gaps have been filled within the last 40 years. A study of references from surrounding states has also helped to formulate a better understanding of the distribution of Odonata species within Louisiana.

Although Louisiana has a variety of habitats for Odonata, It does not support the numbers of species that other southern and eastern states do: Alabama, 173 (Tennesen, et al,1995); Arkansas, 133 (Harp and Harp, 1996); Florida, 162 (Dunkle, 1992); New Jersey, 172 (May and Carle, 1996); New York 175 (Donnelly, 1992); Ohio, 156 (Glotzhober, 1995); and Texas, 194 (Abbot, in press). One reason for the lower number could be that Louisiana is entirely below the fall line, and its highest altitude is less then 600 feet above sea level.

PHYSIOGRAPHY OF LOUISIANA

All of Louisiana is in the Gulf Coastal Plain. Bick (1957) divided the state into 4 general physiographic zones: (Fig. 1) the Pinelands, Alluvial Plain, Prairie, and Deltaic Plain. This scheme seems to work out well with regards to Odonata distribution. The Pinelands zone is separated by the alluvial areas of the Mississippi and Red rivers into 3 separate sub- areas in this study: (1) the Southeast Pinelands, extending eastward from the Mississippi alluvial area into southern Mississippi; (2) the Northern Pinelands, bounded on the east by the Mississippi alluvial area and on the west by the Red River alluvial area (this area extends northward into Arkansas and continues up to the Ouachita foothills); and (3) the Western Pinelands extends from the Red River alluvial areas westward to Houston and Tyler, Texas, and into southeastern Oklahoma.

Bick (1957) gives an excellent account of distribution patterns within the state. Most of the Louisiana Odonata fauna is Eastern [E] (79; 64%) or transcontinental [T] (19; 15 %). These 98 taxa (97 species, 2 subspecies) generally have a range extending from Florida and/or the Atlantic coastal states through Louisiana into east Texas or farther west. Twenty, or 16%, are Coastal Plain [CP], one is Western [W], and four have not been categorized [U]. No species is endemic to Louisiana, although one species, *Ophiogomphus australis*, is limited to the area

¹ Bulletin of American Odonatology 5(1): 1-26

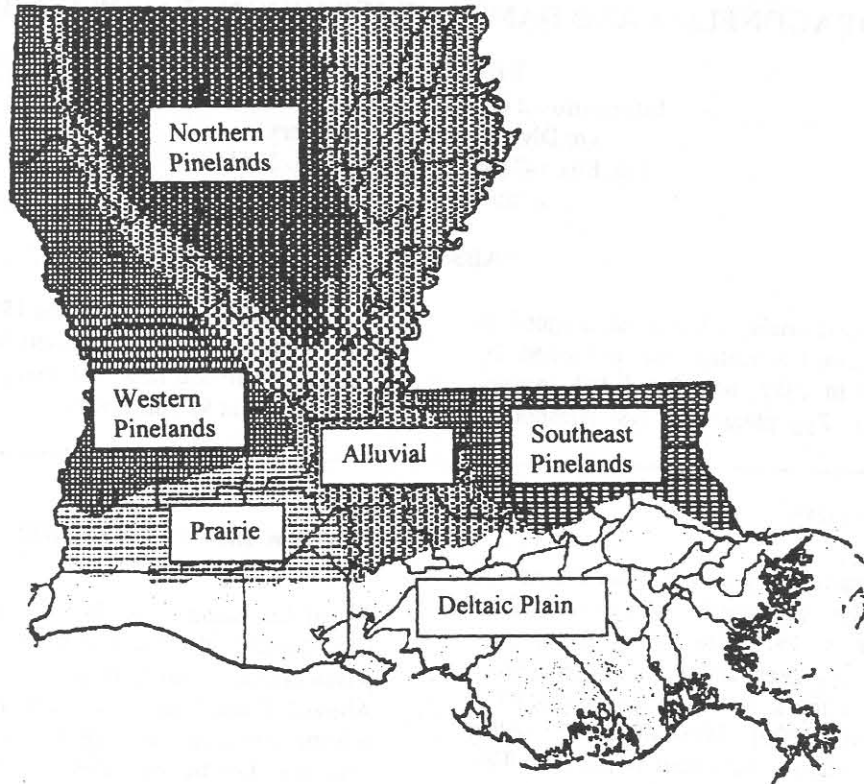


FIG 1. PHYSIOGRAPHIC REGIONS OF LOUISIANA

that includes Washington and Tangipahoa Parishes, Louisiana, and Pike County immediately to the north in Mississippi.

Twelve species reach their western limits in Louisiana. Six of these reach their western limit within the Washington-St. Tammany Parish area: *Enallagma concisum*, *E. weewa*, *Gomphus hodgesi*, *Gomphus* (*Gomphurus*) *dilatatus*, *Cordulegaster bilineata*, and *Somatochlora provocans*. Three taxa have been reported westward to the Mississippi alluvial area but do not cross it: *Argia fumipennis fumipennis*, *Gomphus exilis*, and *Stylurus amnicola*. Four species (*Aphylla williamsoni*, *Dromogomphus armatus*, *Gomphaeschna antilope*, and *Libellula axilena*) reach their western limit in south central and/or southwest Louisiana; however, there is an unverified record from east Texas for *L. axilena* (Orr, 1988).

Nine other eastern species have not been reported from western Louisiana but are expected there since they have been reported in east Texas: *Hetaerina americana*, *Argia sedula*,

Enallagma daeckii, *E. dubium*, *Gomphus apomyius*, *Anax longipes*, and *Neurocordulia alabamensis* (Donnelly, 1978; Orr, 1988), and *Epitheca spinosa* from Arkansas and Oklahoma (Tennessee, 1994). *Erpetogomphus designatus* has also been reported only from this same area, but its range extends through Texas and also through Arkansas to the north. It would be expected in other parts of the state.

Three species reach their eastern limits in Louisiana: *Gomphus oklahomensis*, *Somatochlora margarita* and *Aphylla angustifolia*. The latter is the only one of the three that has been found east of the Mississippi in Louisiana. The first two are limited to the pineland regions of the four state area consisting of Arkansas, Louisiana, Oklahoma, and east Texas. Two additional widespread taxa, *Argia fumipennis violacea* and *Arigomphus submedianus*, are reported from west of the Mississippi River but not from the southeastern part of the state, even though they are found on the east side of the river in the northern part of their range.

Only two species, *Enallagma basidens* and *Epitheca stella*, are restricted to extreme northern Louisiana. *Libellula cyanea* and *L. luctuosa* are primarily northern within the state, with a few recent records from the southern half of the state. *E. basidens* and *L. luctuosa* are widespread in Texas.

Thirty-six species were found primarily in the southern half or, at the most, the lower two thirds of the state. *Erythrodiplax berenice* and *Macrodiplax balteata* were found only in or near brackish areas. *Miathyria marcella* and *Ischnura kellicotti* were restricted by association with particular vegetation.

Dythemis velox, which was not reported by Bick (1957), has apparently moved very rapidly from the north from Arkansas into north central Louisiana, and from the north through Mississippi into the northern part of the Florida Parishes of southeast Louisiana.

SOURCES OF INFORMATION

An attempt was made to review every published reference concerning Louisiana Odonata. The author collected extensively in southeast Louisiana in the 60's and early 70's, and again from 1990-1992 in several regions of the state. Results of this field work are included here. The Jim Barr collection, LSU, IORI, FSCA, and NMNH collections were personally studied. Data were provided from the personal notes of George and Juanda Bick, Sid Dunkle, Jerrell Daigle, John Abbott, and Ken Tennessen. In 1979, Jim Barr distributed a "List of Anisoptera" to the Louisiana Academy of Sciences. There were a number of discrepancies and some misdeterminations that were discovered when I studied his collection as well as the specimens at LSU. The results of this investigation are incorporated here. Malcolm Vidrine published a series of papers between 1988 and 1992 covering the Odonata of Louisiana, especially of the prairie region. Many of his records were based on sight identifications, and, for sake of completeness, they are included, but voucher specimens are needed for verification.

ACKNOWLEDGMENTS

George and Juanda Bick inventoried the FSCA collection and provided personal data, moral

support, and the basis for this entire study. Nancy Adams assisted me in inventorying the NMNH collection, Oliver Flint rechecked some pinned specimen determinations at the NMNH, and Jim Barr provided his entire collection for study. Thanks also to John Abbott, Jerrell Daigle, Sid Dunkle, Geroge Harp, and Ken Tennessen for personal data. The staff of the LSU Entomology Collection, recently renamed the LSU Collection of Arthropods, allowed me to inventory their specimens. Dr. Minter J. Westfall Jr. provided additional moral support which helped rekindle my interest in Odonata after being inactive in Odonata studies for almost 20 years. George Bick, Jerrell Daigle, and Ken Tennessen reviewed the rough draft.

THE LIST

The families are listed after Garrison (1997) and all matters of nomenclature are based on his January 1997 revision. The species and parishes (= counties) are listed alphabetically. All parish records included in and discussed by Bick (1957) are simply listed with no code. All parish records after 1957, plus any that were not covered by Bick (1957), are listed either with a code indicating source or a full citation (if there were less than 3 records from the source). If a parish record not cited by Bick (1957) was from more than one source, then all the sources are listed.

In some cases a multiple-record reference may refer to the same specimen which was cited in the literature and then again in a particular collection. Many of the FSCA, IORI, NMNH, and LSU records were collected by the writer. Some were in my personal collection at the beginning of this study but were later deposited in one of the studied collections. The multiple references better support the validity of the record, especially if one or more of the records was a sight record.

The earliest and latest dates for adults are enclosed in parentheses. Brackets that follow include codes for the general distribution of the species, restrictions within Louisiana, and a code for new species added since Bick (1957).

Legend: codes within parentheses ()

No	Records (new and historical) from Bick
code	(1957)
B	Bick personal communication
B8	Bick (1978)

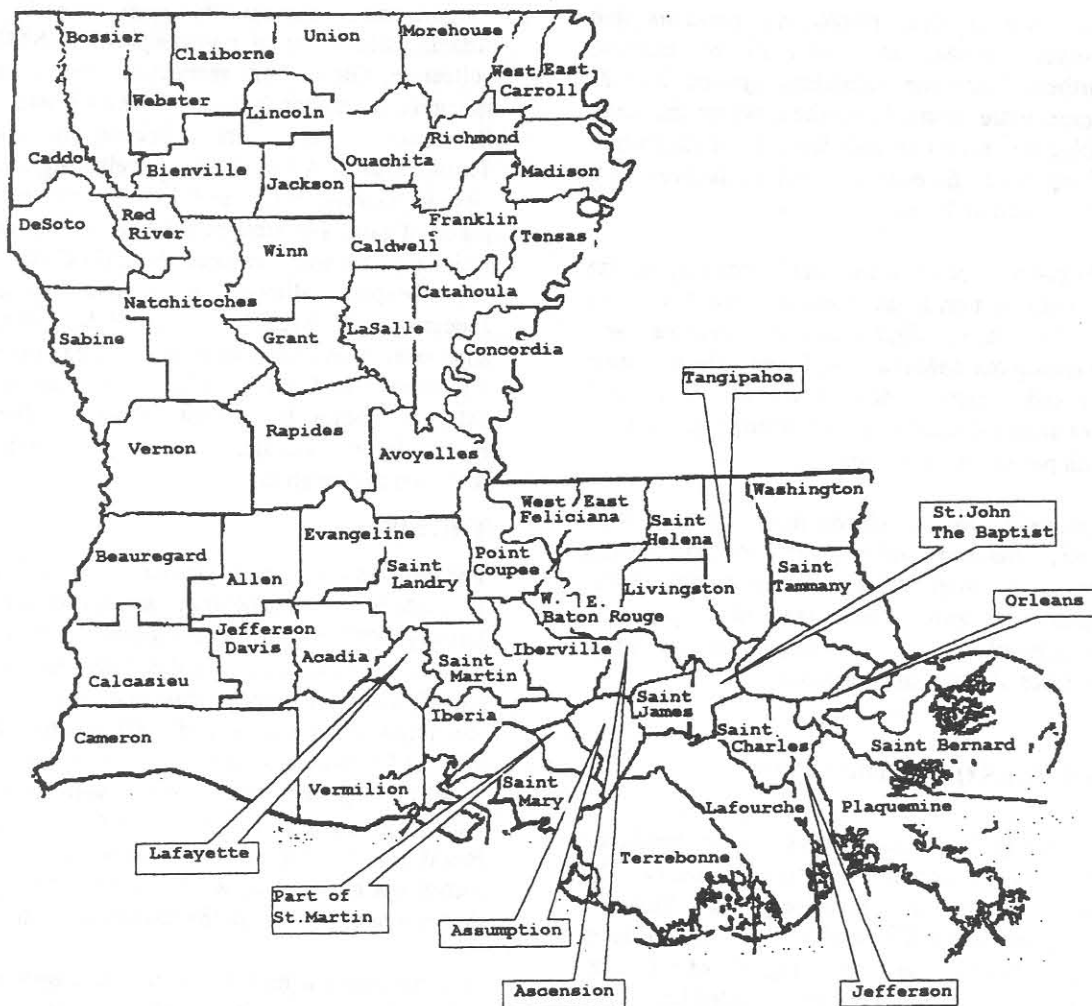


FIG 2. LOUISIANA PARISH MAP

B9	Bick (1990)	W	Mauffray collection (many now in FSCA, IORI, LSU, and NMNH)
D	Dunkle (Pers. Comm.)	WW	Walls and Walls (1971)
JL	Louton (1982)	WT	Westfall and Tennesen (1979)
F	FSCA/IORI collections (Gainesville, FL)		
L	LSU (Baton Rouge, LA)		
M	Mulhern (1971)		
J	Barr Collection, verified by writer		
JA	Abbott (Pers. Comm.)		
JU	Barr 1979 List (unpublished)		
U	NMNH (National Museum of Natural History) (Washington DC)		
V	Vidrine (1992)		
V8	Vidrine (1988) from Ft. Polk list		
V9	Vidrine (1991)		
VP	Vidrine (1992) reported as "previous records" but unable to find a literature reference		
			Legend: distribution codes within brackets []
		E	Eastern US
		T	Transcontinental US
		W	Western US
		CP	Coastal Plain US
		U	Undefined
		>	Found only east of the Mississippi River in state
		<	Found only west of the Mississippi River in state
		^	Found only in northern half of state

- e Reaches eastern limit in state
- w Reaches western limit in state
- # Added or reinstated to list since Bick (1957)
- * First record for state

ZYGOPTERA

CALOPTERYGIDAE

Calopteryx dimidiata Burmeister, 1839. Allen (V), Beauregard, Rapides, St. Helena, St. Tammany, Tangipahoa (F,L), Union, Vernon (F,V,V8,W), Washington.

Found along small, clear flowing streams in scattered localities throughout the pinelands. (Mar 1-Sept 10) [E]

Calopteryx maculata (Beauvois, 1805). Allen (J,V), Beauregard, Bienville (J), Bossier, Caldwell (J), Catahoula (J), Claiborne, DeSoto (J), East Baton Rouge, East Feliciana, Grant (L,V), Jackson, LaSalle, Lincoln, Livingston (F,W), Morehouse (J), Natchitoches, Ouachita, Rapides, Red River (B), Sabine (B,J,V), St. Helena (F,J,W), St. Tammany, Tangipahoa, Union (J), Vernon (B,L,V8), Washington, West Feliciana (F,L,W), Winn.

Very common throughout the pinelands along flowing creeks in mostly shaded situations. (Mar 1-Oct 25) [E]

Hetaerina americana (Fabricius, 1798). East Baton Rouge, East Feliciana, St. Helena, Tangipahoa, Washington, West Feliciana (F,L,W).

Reported only from the southeast pinelands along sunlit clear flowing streams. It should occur in other pineland areas, since it is reported from east Texas (Donnelly, 1978; Orr, 1988,1997). (Apr 2-Oct 2) [T>]

Hetaerina titia (Drury, 1773). Allen, Avoyelles (VP), Beauregard (B,L), Catahoula (J), East Baton Rouge, East Feliciana, Evangeline, LaSalle (F,J), Madison, Natchitoches (L), Rapides, St. Helena, St. Tammany, Tangipahoa, Vernon, Washington, West Feliciana (F,L,W).

This widespread species occurs throughout the pineland areas. (Jun 24-Nov 15) [E]

LESTIDAE

Lestes disjunctus australis Walker, 1952. Allen (V), Ascension, Beauregard (J), East Baton

Rouge, East Feliciana (F), Iberville (L), Jefferson Davis (VP), LaSalle (F,W), Lincoln, Natchitoches (B), Ouachita, Rapides (B,V), Sabine, St. Landry (B,V), St. Tammany, Terrebonne, West Feliciana (L).

Collected in both pinelands and alluvial areas of the state, mostly around sunlit ponds, sloughs, and ditches. This species has two separate flight periods during the year. Bick (1957) suggested a dual emergence period. I found it rare in early spring but common in late fall. (Mar 8-Apr 4 and Aug 2-Dec 4) [E]

Lestes inaequalis Walsh, 1862. Beauregard (V), East Feliciana (F,W), Grant (F), Saint Charles (F), Vernon (V), Webster.

Except for the St. Charles records, collections were in the pinelands, but populations are apparently localized. (Apr 7-Aug 18) [E]

Lestes vigilax Hagen in Selys, 1862. Acadia (V), Beauregard (V), Bossier, Claiborne, East Feliciana (F), Jefferson Davis (VP), Lincoln, Rapides (V), St. Landry (V), St. Martin (V), St. Tammany, Tangipahoa, Union (J) Vernon (V)

This shade-loving species was found in scattered locations only in the pinelands. (Mar 31-Oct 19) [E]

COENAGRIONIDAE

Argia apicalis (Say, 1839). Acadia (V), Allen (J,V), Ascension, Avoyelles, Beauregard, Bienville, Calcasieu (D,F,L,V), Catahoula, Concordia (J), East Baton Rouge, East Carroll (J), East Feliciana, Evangeline (V), Grant, Jefferson Davis (J,V), Lafayette, LaSalle, Lincoln, Livingston (W), Madison, Morehouse (J), Natchitoches, Rapides (J,V), Sabine (V), St. Helena, St. Landry (V), St. Martin (V), Tangipahoa, Tensas, Washington, West Carroll (J), West Feliciana.

Bick (1957) stated that this species was found almost equally in the pinelands and alluvial areas. (Apr 17-Nov 24) [E]

Argia bipunctulata (Hagen, 1861). Caldwell, DeSoto, Lincoln, Livingston (W), Vernon (W), Washington (J).

The Vernon Parish record was listed as *Argia barretti* by Vidrine et al (1992). See notes under "Doubtful and Obsolete Records" below.

This widespread species is usually found in association with seepage springs which are not

too abundant in Louisiana. Previous records were only for North Louisiana, but this species has now been collected in the pinelands of both the southeast and southwest. (May 5-Aug 4) [E]

Argia fumipennis fumipennis (Burmeister, 1839). East Baton Rouge, East Feliciana, St. Helena, St. Tammany, Tangipahoa, Washington, West Feliciana (W).

Found only in the southeast pinelands in a variety of habitats, sometimes being very abundant. (Mar 28-Oct 4) [E>]

Argia f. violacea (Hagen, 1861). Bienville (J), Claiborne, LaSalle (F,W), Natchitoches (J), Rapides (B,V,W), Vernon.

This clear winged form is found only west of the Mississippi in Louisiana, never as abundant as its southeast Louisiana dark winged form. The Bick (1957) records and those of the writer were from ponds. My experience with this species in Arkansas and Arizona is that it is a stream species. (Mar 26-Sep 1) [E<]

Argia moesta (Hagen, 1861). Acadia (VP), Allen, Assumption (VP), Avoyelles (V), Beauregard, Bienville (JA), Claiborne, East Baton Rouge, East Feliciana, Evangeline (V), Grant, Jefferson Davis (J), LaSalle, Livingston, Madison (VP), Morehouse, Natchitoches (J), Rapides, Sabine (V), St. Helena, St. Tammany, Tangipahoa, Tensas (VP), Union (J), Vernon, Washington, West Feliciana (W). Winn.

Found on streams and rivers throughout the pinelands. (Apr-3-Sep 11) [T]

Argia sedula (Hagen, 1861). East Baton Rouge, East Feliciana, Grant (B), LaSalle, Livingston, Madison, Richland (J), St. Helena, St. Tammany, Tangipahoa, Tensas, Washington, West Feliciana.

This stream species is widespread but not as common as *Argia moesta*. It has not been reported from western Louisiana, but it should occur there. (Apr 17-Sep 25) [T]

Argia tibialis (Rambur, 1842). Acadia (L,V), Allen, Ascension, Avoyelles (V), Beauregard, Bienville (J), Bossier, Caddo, Calcasieu (V), Caldwell (J), Catahoula, Claiborne, DeSoto, East Baton Rouge, East Carroll (J), East Feliciana, Evangeline, Grant, Jackson, Jefferson Davis, Lafayette (B,V), LaSalle, Lincoln, Livingston, Madison, Morehouse, Natchitoches, Rapides,

Red River (J), Sabine (V), St. Helena, St. Landry, St. Martin (V), St. Tammany, Tangipahoa, Union, Vernon, Washington, Webster, West Carroll, West Feliciana (W), Winn.

Very widespread on both pond and stream habitats, but absent from the Deltaic Plain. (Mar 3-Sep 16) [E]

Enallagma basidens Calvert, 1902. Natchitoches, Tensas.

This species has been found only in northern Louisiana. It has rapidly expanded its range from southwestern US into the mid-west and north Atlantic states. and should be found at other localities in northern and western Louisiana. (Aug 15-Oct 5) [T^]

Enallagma civile (Hagen, 1861). Acadia (V), Allen (V), Ascension (W), Beauregard (V), Calcasieu (V), Caldwell, Catahoula (J), Concordia (J), East Baton Rouge, East Feliciana (J), Evangeline (B), Iberia (B), Jackson, Jefferson, Jefferson Davis (V), LaSalle, Lincoln, Livingston (W), Madison, Natchitoches, Orleans (F,U), Ouachita, Sabine (V), St. Bernard (W), St. Helena (W), St. Landry (V), St. Tammany (F), Tangipahoa (W), Tensas, Vernon (V), Webster, West Feliciana.

This species was found in a variety of habitats throughout the state including slightly brackish ponds and flowing streams. (Mar 8-Nov 26) [T]

Enallagma concisum Williamson, 1922. St. Tammany, Jefferson.

The record is from a brackish marsh at Grand Isle, Louisiana. This is unusual, since *E. concisum* is usually associated with heavily vegetated, acidic ponds and roadside ditches in the pinelands of southeastern US. The Grand Isle specimen could have been a vagrant blown in from Saint Tammany Parish, where it has been found only in the eastern half of the parish. These are the westernmost records for the species. (Mar 6-Sep 27) [CP>w]

Enallagma daeckii (Calvert, 1903). St. Tammany, Tangipahoa (W).

Found only in a few scattered localities of the southeast pinelands. (Apr 24-Jun 8) [CP>]

Enallagma divagans Selys, 1876. Bienville (J), Catahoula (J), East Baton Rouge (W), East Feliciana (W), Livingston (F), Natchitoches,

Rapides (B), St. Helena, St. Tammany, Tangipahoa, Vernon (V,V8), Washington (D,W).

Common early season species found throughout the pinelands. (Mar 14-Jun 12) [E]

Enallagma dubium Root, 1924. Acadia (V), Calcasieu (V), Jefferson Davis (VP), St. Tammany.

Although the Vidrine (1992) records are sight records, *E. dubium* probably does occur in southwest Louisiana, as Donnelly (1978) and Orr (1988) reported it from east Texas. (Apr 9-Sep 10) [CP]

Enallagma durum (Hagen, 1861). Calcasieu (JA), Cameron (L,V), East Baton Rouge (W), Jefferson, Lafourche (F), Madison, Orleans, Plaquemines (B), St. Charles (W), St. Tammany (F,L).

This species was found at various sites within the deltaic and alluvial zones. The St. Tammany site at Slidell is on the edge of the pinelands. Some sites are slightly brackish. (Apr 1-Jul 15) [CP]

Enallagma exsulans (Hagen, 1861), Allen (B), East Feliciana (W), Jefferson Davis (V), LaSalle (W), Madison, Natchitoches (B), St. Helena (F), St. Landry (V), Tensas (J), Washington.

Found along clear flowing streams in the pinelands. (Apr 12-Sep 10) [E]

Enallagma geminatum Kellicott, 1895. Evangeline (B), Madison, St. Tammany (L,W), Tensas, Webster, West Feliciana (W).

This widespread species apparently occurs only locally in Louisiana. (Mar 31-Aug 18) [E]

Enallagma signatum (Hagen, 1861). Acadia (V), Ascension, Avoyelles (J), Beauregard (B), Caddo (J), Calcasieu (D,V), Caldwell, Cameron, Catahoula, Claiborne, East Baton Rouge, East Feliciana (W), Evangeline, Grant (W), Iberia (B), Iberville (W), Jefferson, Jefferson Davis (V), Lafourche, LaSalle (W), Lincoln, Livingston (W), Madison, Natchitoches, Orleans, Pointe Coupee (F), Rapides, St. Helena (F,W), St. Landry (V), St. Martin, St. Tammany, Tangipahoa, Tensas, Vernon (V,V8), Webster, West Baton Rouge (W), West Carroll (J), West Feliciana.

This species occurred in all physiographic regions. (Feb 13-Nov 10) [E]

Enallagma traviatum westfalli Donnelly, 1964. Tangipahoa, Vernon (V,W) Washington (D). Reported as *E. traviatum* by Bick (1957).

This is another species that has very localized populations in the state. In Tangipahoa it lives in an old gravel pit adjacent to the Tangipahoa River at Amite. Sid Dunkle reports (Pers. Comm.) that the Washington Parish specimens (2 males) were collected in the forest, not at the water. The locality was along the Pushepatapa Creek at highway LA- 21 near Varnado. (Apr 17-May 3) [E]

Enallagma vesperum Calvert, 1919. Claiborne, St. Tammany (W), Tensas.

The St. Tammany site is a wooded, marshy edge of a spring-fed man-made pond at Florenville. (Mar 31-Aug 17) [E]

Enallagma weewa Byers, 1927. St. Tammany.

This is the westernmost record for this species, because the Allen (V), Rapides (V), and Vernon (V8) records are questionable. It is unlikely that this species occurs west of the Mississippi River.

It is usually found hovering almost on the surface of deeply stained acid-water pools of flowing streams, where the adults are difficult to see and difficult to capture unless "pancaked" with a net. (Apr 25-Sep 10) [CP>w]

Ischnura hastata (Say, 1839). (= *Anomalagrion hastatum*) Acadia (B,J,V), Allen, Ascension (W), Avoyelles (U), Beauregard (B,J,V), Calcasieu (U,V), Caldwell, Cameron, Catahoula (J), Claiborne, East Baton Rouge, East Carroll (J), East Feliciana (W), Evangeline (V,W), Franklin, Grant, Iberia, Jackson, Jefferson, Jefferson Davis (V), Iberville (L), Lafayette, LaSalle, Lincoln, Livingston (W), Madison, Morehouse, Natchitoches, Orleans, Ouachita, Plaquemines, Rapides, Richland, Sabine, St. Charles (B). St. John the Baptist (L), St. Helena, St. James (V,W), St. Landry (L), St. Martin, St. Tammany, Tangipahoa, Tensas, Union, Vermilion, Vernon, Washington, Webster, West Baton Rouge (W), West Feliciana (J), Winn.

(Feb 17-Nov 18) [T]

Ischnura kellicotti Williamson, 1898. Claiborne, East Feliciana (L), Lincoln, Ouachita, St. Tammany, Vermilion (J).

Should be found in the pinelands wherever there are lentic, acid waters with *Nuphar* or *Nymphaea* pads. Bick (1957) discussed the

method of scooping up the whole lily pad to collect the adults. Ken Tennesen recommends (Pers. Comm.) simply placing the net slowly over the lily pad and allowing the specimen to fly up into the net. (Apr 1-Oct 1) [E]

Ischnura posita (Hagen, 1861). Acadia, Allen (B,V), Ascension, Avoyelles (J), Beauregard (B,V), Bienville (J), Caddo (J), Calcasieu (U,V), Caldwell, Cameron (V), Catahoula, Claiborne, Concordia (J), East Baton Rouge, East Carroll (J), East Feliciana, Evangeline, Franklin, Grant, Iberia (B,V), Iberville (W), Jackson, Jefferson, Jefferson Davis (V), Lafayette, Lafourche, LaSalle, Lincoln, Livingston, Madison, Morehouse, Natchitoches, Orleans, Ouachita, Plaquemines, Point Coupe (W), Rapides, Richland, Sabine, St. Charles, St. Helena (W), St. John the Baptist (F,L), St. Landry (V), St. Martin, St. Mary (J), St. Tammany, Tangipahoa, Tensas, Terrebonne, Vermilion (V), Vernon, Washington, Webster, West Baton Rouge (W), West Feliciana, Winn (B).

(Feb 13-Dec 31) [E]

Ischnura prognata (Hagen, 1861). Cameron, East Baton Rouge (W), Jefferson, Orleans, St. John the Baptist (F), St. Martin (B), St. Tammany, Tangipahoa.

This shade-loving species was found in isolated swampy habitats across southern Louisiana. (Feb 15-Sep 9) [E]

Ischnura ramburii (Selys, 1850). Acadia (D,L,V), Allen, Ascension, Avoyelles, Beauregard, Bienville, Bossier, Calcasieu, Cameron, Claiborne, East Baton Rouge, East Carroll, East Feliciana, Evangeline (B,V), Franklin, Iberia, Iberville (L), Jackson, Jefferson, Jefferson Davis, Lafayette, Lafourche, LaSalle (W), Lincoln, Livingston, Madison, Natchitoches, Orleans, Ouachita, Plaquemines, Point Coupe (J), Rapides, Richland (J), St. Bernard (W), St. Helena (W), St. James (W), St. John the Baptist (F), St. Landry (V), St. Martin (B,V), St. Mary, St. Tammany, Tangipahoa, Tensas, Terrebonne, Vermilion, Vernon (V,V8), Washington (W), West Baton Rouge (W), West Feliciana.

It occurs throughout the state but is more common in the southern third. (Jan 2-Dec 23) [E]

Nehalennia integricollis Calvert, 1913. St. Tammany, Calcasieu (L). Sam Houston State Park 17-V-1992, 1 female, coll. J. Louton.

These records are at the extremities of south Louisiana. Additional collecting should result in more localities. (Mar 31-Sep-10) [E]

Telebasis byersi Westfall, 1957. Louisiana (Westfall and May, 1996).

This record is based on a young (3-4th instar) larva in the FSCA collection with the following data "Reserve Canal", "26-IX-73" No collector was listed. This locality in St. John the Baptist Parish is a muddy drainage canal in the midst of sugarcane fields. The specimen was originally determined as *T. salva*, but when it was examined again for this study in 1996, it was redetermined as *byersi*. When I checked the Reserve Canal site in the mid 70's, it was devoid of vegetation and not accessible for any larval sampling. Vidrine et al, 1992 reports sight records from Beauregard, Lafayette and St. Landry Parishes. It has been recorded from East Texas (Orr, 1988; Dunkle, Pers. Comm.) and southern Arkansas, Drew Co (Harp and Harp, 1996), so it probably does occur in other parts of Louisiana. Voucher specimens are needed. [#E]

ANISOPTERA

PETALURIDAE

Tachopteryx thoreyi (Hagen in Selys, 1858). Grant (F), Natchitoches (J), Rapides (V), Sabine (V), St. Tammany, Union, Vernon (D,V,V8,V8b).

This widespread eastern species is rare in Louisiana, due to the scarcity of seepage springs. The Grant parish specimen was collected as it landed on my white T-shirt. (Apr 3-Jul 15) [E]

AESHNIDAE

Anax junius (Drury, 1770). Acadia (V), Allen, Ascension (JU), Avoyelles (M,V), Beauregard, Bossier (L,JU), Caddo (L,JU), Calcasieu, Cameron, Catahoula (J), Claiborne, Concordia, DeSoto (L,JU), East Baton Rouge, East Feliciana (F,JU), Evangeline, Franklin, Iberia, Iberville, Jefferson, Jefferson Davis (L,JU), Lafayette, LaSalle (W), Lafourche, Lincoln, Livingston (JU,W), Madison, Natchitoches, Orleans, Ouachita, Pointe Coupee (JU), Plaquemines, Rapides, Red River (JU), Richland, Sabine (V), St. Bernard, St. Charles, St. Helena (F,W), St. John the Baptist (F,L), St. Landry (L,JU), St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, Vernon, Washington,

Webster (L,JU), West Carroll (J), West Baton Rouge (JU), West Feliciana.

Bick (1957) reported a swarm of about 1000 adults over the marshes of Grand Isle in the Gulf of Mexico. (Jan 19-Dec 14) [T]

Anax longipes Hagen, 1861. Ouachita (M), St. Tammany, Tangipahoa (B), West Feliciana (V).
(May 23-Aug 30) [E]

Basiaeschna janata (Say, 1839). DeSoto (JU), Livingston (JU), Ouachita (M), Rapides (B,D), St. Helena (F,L,W), Tangipahoa (F), Union (JU), Washington, West Feliciana (JU).

This early season species was found along small to medium clear flowing streams in widely scattered locations throughout the pinelands (Mar 26-Apr 6) [E]

Boyeria vinosa (Say, 1839). Allen (JU,WW), Beauregard (JL,V), Bossier, Caldwell (J), DeSoto (VP), East Feliciana, Evangeline (V), Grant, Jefferson Davis (JL), LaSalle (J), Livingston, Natchitoches, Rapides, St. Helena, St. Tammany, Tangipahoa, Union (J,L), Vernon, Washington, West Feliciana.

Bick (1957) and May and Carle (1996) attributed the few small number of records of adults to their crepuscular habit. I collected adults while wading clear flowing streams along deeply shaded water courses and found the adults erratically flying along the shoreline. (May 3-Nov 5) [E]

Coryphaeschna ingens (Rambur, 1842). Acadia (D,V), Allen, Beauregard (V), Calcasieu (D), Cameron, Claiborne (U), DeSoto (U), East Baton Rouge, East Feliciana (L,JU), Evangeline, Jefferson, Jefferson Davis (D), Lafayette, Morehouse (JU), Orleans, Plaquemines, St. Bernard, St. Charles, St. Helena, St. James, St. John the Baptist (F), St. Landry (V), St. Mary (J,JU), St. Tammany, Tangipahoa, Terrebonne, Vermilion (VP), Vernon..

Most records are from the southern half of the state in pinelands, alluvial, and deltaic areas. I observed swarms of this species in Jefferson Parish at dusk on several occasions during August of 1965. (Apr 15-Oct 3) [E]

Epiaeschna heros (Fabricius, 1798). Acadia (D,JU), Allen, Ascension (W), Assumption (VP), Avoyelles (VP), Beauregard (VP), Bienville (JU), Bossier, Caddo, Calcasieu (VP), Caldwell (VP), Cameron, Catahoula (VP), Claiborne (VP),

Concordia (L), DeSoto (VP), East Baton Rouge, East Carroll (VP), East Feliciana, Evangeline, Franklin (J), Grant, Iberville, Jackson, Jefferson, Jefferson Davis (D,VP), Lafayette, Lafourche, LaSalle (W), Lincoln (VP), Livingston, Madison (VP), Morehouse (J), Natchitoches, Orleans, Ouachita (VP), Point Coupe (L, J), Rapides (B,D), Red River (VP), Sabine (V), St. Bernard (F), St. Charles, St. Helena (JU,W), St. James (VP), St. John the Baptist (D,F), St. Landry, St. Martin (JP), St. Mary (VP), St. Tammany, Tangipahoa, Tensas (VP), Terrebonne, Union (J), Vermilion (B), Vernon (B,D,V8), Washington, Webster, West Baton Rouge (JU), West Carroll (VP), West Feliciana, Winn.

There are many discrepancies in the "Previous Records" reported by Vidrine (1992) [as "VP"] as compared to actual literature records. I compared the Vidrine "Previous Records" with the Jim Barr unpublished handout (1979) and found exactly the same discrepancies. Perhaps Barr somehow confused the "previous records" for this species with those listed for another species. Vidrine simply repeated the Barr List. The species probably will eventually be found in all these additional parishes as it was not restricted to any zone. (Feb 22-Oct 28) [E]

Gomphaeschna antilope (Hagen, 1874). Lafayette (B), Orleans, St. Tammany (D,F).

The Lafayette Parish record is the westernmost for this species. Both species of this genus were found near swampy areas. (Apr 11-Jun 2) [Ew]

Gomphaeschna furcillata (Say, 1839). Jackson, Lafayette (F), Madison, Orleans, Rapides (D).
(Feb 3-Apr 14) [E]

Nasiaeschna pentacantha (Rambur, 1842). Acadia (D,V), Allen (W), Ascension, Assumption, Caddo (JU), DeSoto, East Baton Rouge, Evangeline (V), Iberia (V), Iberville, Jefferson, Jefferson Davis (D), Lafayette, Lafourche (JU), Madison, Natchitoches, Orleans, Plaquemines, Rapides (V), Richland, Sabine (V), St. Charles, St. Landry (V), St. Martin (V), St. Tammany, Tangipahoa, Washington, West Baton Rouge (JA), West Feliciana (W).
(Mar 30-Oct 12) [E]

GOMPHIDAE

Aphylla angustifolia Garrison, 1986. West Feliciana: Laurel Hill; Lake Rosemond

development, "N.E. corner, near small lake": 22 July-1990. 1 male (W); East Baton Rouge: Central, Biltmore Subdivision: 22 June-1986, 1 female (J) same: 2 July-1984: 1 male (J); Allen Kinder, Pond, 4 July-1968, M. Milson "Data from Jerry Walls". (Pers. Comm. Sid Dunkle).

Vidrine, (1988a,1992) reported sight records of *A. protracta* (Selys, 1859) from Calcasieu, Evangeline, Jefferson Davis, Lafayette, St. Landry and Vermilion. These are probably *angustifolia*. *A. angustifolia* apparently has become distributed in Louisiana from west to east into the Baton Rouge and West Feliciana areas. The West Feliciana site at Lake Rosemond is a man-made sand-bottomed lake which also supports an *A. williamsoni* population. (Jun 22-Jul 22) [*We]

Aphylla williamsoni (Gloyd, 1936). Beauregard, East Baton Rouge, Iberia (V), Jefferson, Lafourche (JU), Orleans, Sabine (V), St. Bernard (F), St. Charles, St. Landry (V), St. Mary (JU), St. Tammany, West Feliciana (W).

This species is one of the few gomphids found in the deltaic plain and the only one in the New Orleans area. The Beauregard and Sabine records are the westernmost for this species, but there is a recent, unpublished record for adjacent Jefferson Co. Texas. (Apr 14-Nov 2) [Ew]

Arigomphus maxwelli (Ferguson, 1950). Acadia: ditch, 1 ml E of Jefferson Davis Parish line on I-10, 15 June-1966, 1 male, (D,F); Calcasieu: pond, 6.2 ml E. Vinton turnoff of I-10, 15 June-1966, 1 male (D,F); Claiborne: 17 June-1979. 1 male (J); East Baton Rouge: Klienpeter, pond, 1 ml W of highways US-61 and LA 42. 24 May-1967, 1 male; *ibid* 17 June-1966, 1 male (F,W); Jefferson Davis: Bayou Nezpique at highway LA-97, 2 May-1985, 1 male (D,F); Lafayette (B); St. Martin: East edge of Henderson at Bayou Amy, 2 June 1997, 8 males, 1 female (George Harp, Pers. Comm.); Tangipahoa: 5 June-1977, 1 male (L).

These seem to be the first verified Louisiana records. (May 2-Jun 17) [*U]

Arigomphus submedianus (Williamson, 1914). Acadia (J), Caddo (L), Morehouse, Natchitoches (G), Point Coupee (J), Rapides, Tensas (J). (May 23-Jul 31) [E]

Dromogomphus armatus Selys, 1854. Iberia (WT), St. Tammany (JL).

The only records are of larvae. The Iberia record is the westernmost for this species. The St. Tammany record was from Talisheek Creek at highway LA-41. [#CPw]

Dromogomphus spinosus Selys, 1854. Acadia (JU), Allen, Avoyelles (V), Beauregard (JL,V), Bienville (JA), Bossier (JU), Caddo (JU,L), Caldwell (J), Catahoula (J), Claiborne (JU,L), DeSoto (JU), East Baton Rouge (Garcia, 1934,JU,L), East Feliciana, Evangeline (V), Grant, Iberia, Jackson (JU), Jefferson Davis (JL,JU), LaSalle (JL), Livingston, Madison, Morehouse (VP), Ouachita (M), Pointe Coupee (JU), Rapides, Sabine (JU), St. Helena, St. Landry (V), St. Martin (V), St. Tammany, Union (J,JU), Vernon (JU,L), Washington (JL), West Feliciana (JU).

I have redetermined the Webster Parish specimen (JU), in the LSU collection, as *D. spoliatus*. (Jun 6-Sep 11) [E]

Dromogomphus spoliatus (Hagen in Selys, 1858). Acadia (V), Allen (D,WT), Evangeline (V), Jefferson Davis (V), Morehouse (M), Rapides (V), Sabine (JL). St. Landry (V), Vernon (V). Webster (L).

Bick (1957) reported larvae from 6 additional parishes, but he stated (Pers. Comm.) that the identifications may not be valid. (Jun 19-Aug 12) [E]

Erpetogomphus designatus Hagen in Selys, 1858. St. Tammany (F), Washington.

This widespread species has only been collected in the Pearl River drainage. Further collecting should result in additional records. *E. designatus* is widespread throughout Texas, Oklahoma, Arkansas, and Mississippi. The St. Tammany specimens were collected at the town of Pearl River, near the West Pearl River bridge at highways US-11 and I-10 on 6-June-1964. [E>]

Gomphus (Gomphurus) dilatatus Rambur, 1842. Washington Parish: Crain Creek, 28 May-1987, 1 female, coll Jim Barr. (specimen checked by the author), Varnado, Pushepatapa Creek, SR 21, 3 May-1986, 2 males coll. by Sid Dunkle.

Foster and Smith (1901) originally recorded this species "from the Amite River." Bick (1957) listed it in his "species not seen by the writer" category and discussed the historical notes about the specimen. Westfall (1974) determined the Amite River specimen as *G.*

modestus. *G. dilatatus* seems to reach its western boundary in the southeast pinelands. [*CP>w]

Gomphus (Gomphurus) hybridus Williamson, 1902. Allen (W), Beauregard (JL), DeSoto (U), East Baton Rouge (W), East Feliciana (W), St. Tammany (F), Tangipahoa (D) Washington (D).

Sight records from Vidrine for *Gomphus vastus* are probably this species. The writer spent a day collecting with him in March, 1992 at his *vastus* location, and we found only *hybridus*. (Mar 30-May 3) [#E]

Gomphus (Gomphurus) modestus Needham, 1942. Allen (WW), Tangipahoa (D, Westfall, 1974), Washington (JL).

Vidrine's (1992) sight records from Beauregard (V), Rapides (V), Sabine (V), and Vernon should be questioned until voucher specimens are obtained. The Tangipahoa Parish specimen was collected by Sid Dunkle on 4 May 1986 at Kentwood, Tangipahoa River at highway LA-38. (May 4-Jun 6) [#E]

Gomphus (Hylogomphus) apomyius Donnelly, 1966. East Baton Rouge (B9,L), East Feliciana (B9), Tangipahoa (F,W), Washington (W).

Since this species occurs in east Texas (Donnelly, 1966, 1978; Orr, 1988), it probably will be collected in the pinelands of southwest Louisiana. (Mar 25-Apr 24) [#U>]

Gomphus (Gomphus) exilis Selys, 1854. (= *Gomphus flavocaudatus* Walker). East Baton Rouge (F, JU, W), East Feliciana (JU, W), Livingston (F), St. Helena (F, W), St. Tammany, Tangipahoa, Washington.

A very common early-season species in the southeast pinelands, it often flies with *G. lividus*. Although it has not been reported west of the Mississippi in Louisiana, Abbot (1996) reports it from Nacogdoches County, Texas, as a western extension of its range. (Mar 3-May 24) [E]

Gomphus (Gomphus) hodgei Needham, 1950. St. Tammany.

To date it has been collected only in spring-fed tributaries within the lower Pearl River drainage. Talisheek Creek at highway LA-41 is the best place to find it. This is the western limit of this lower coastal plain species, the range of which extends eastward into the Florida panhandle. (Mar 1-Apr 3) [CP>w]

Gomphus (Gomphus) lividus Selys, 1854. Beauregard (JL, L, V), East Feliciana (F, W), Evangeline (V), LaSalle (W), Lincoln, Natchitoches, Ouachita (M), Rapides (B, D, V), St. Helena (W), Tangipahoa, Vernon (D, V, V8, W), Washington (D, JL, J, W).

Along with *G. exilis*, this is the most common early-season gomphid. (Mar 13-Jun 6) [E]

Gomphus (Gomphus) oklahomensis Pritchard, 1935. Allen (V, W), Beauregard (F, VP), Caddo (J), Calcasieu (D, V), LaSalle (W), Lincoln (L), Rapides (B8, D), Vernon (D, V, V8, W), Winn (JA).

G. oklahomensis replaces *G. exilis* west of the Mississippi River in Louisiana, where it is commonly found with *G. lividus*. (Mar 23-May 2) [#U<e]

Hagenius brevistylus Selys, 1854. Allen, Avoyelles (JU), Beauregard (JL, JU), Bossier (JU), East Baton Rouge (JU), East Feliciana, Grant, Jackson (JL), Lincoln (JU), Natchitoches (J), Rapides, St. Helena, St. Landry, St. Tammany, Tangipahoa, Vernon, Washington, West Feliciana (JU), Winn (JU).

(May 27-Aug 7) [E]

Ophiogomphus australis Carle, 1992. Tangipahoa, Washington (type locality, Carle, 1992).

This may be the only species that approaches being endemic in Louisiana, as it has been found only in two parishes in southeast Louisiana and adjacent Pike County, Mississippi, in the Tangipahoa River headwaters. It requires a gravel substrate. Gravel mining in southeast Louisiana has nearly destroyed the habitat for this species. (Apr 8-Apr 21) [#>]

Progomphus obscurus Rambur, 1842. Allen, Beauregard (JL, V), Bossier, Caddo (L, JU), Catahoula (J, JU), Claiborne, East Baton Rouge, East Feliciana, Grant, LaSalle (JL, M, W), Livingston, Natchitoches (JL, JU, L), Rapides, Red River (J), Sabine (V), St. Helena (F, J), St. Tammany, Tensas (JU, VP), Tangipahoa, Union, Vernon, Washington, Webster (L), West Feliciana.

This common late-spring to early-summer species should be found along almost any sandy flowing stream in the pinelands throughout the state. (Apr 11-Aug 25) [E]

Stylurus amnicola (Walsh, 1862). Washington, Livingston (JU).

The Washington Parish record (one female) was verified by L.K. Gloyd and M. J Westfall Jr. (Bick, Pers. Comm.). I have not seen the Barr specimen from Livingston Parish. (June 2) [E>]

Stylurus laurae Williamson, 1932. Beauregard (V), Jackson (JL), Vernon (V), Washington (JL). (Apr 6-Jul 28) [#E]

Stylurus plagiatus (Selys, 1854). Allen (V), Caldwell, Catahoula, East Baton Rouge (L), Evangeline (V), Lincoln (JU), Ouachita (M), St. Landry (V), St. Tammany, West Carroll. (Jun 14-Aug 29) [T]

CORDULEGASTRIDAE

Cordulegaster bilineata (Carle, 1983). (= *Zoraena bilineata*). Washington Parish, Varnado, highway LA-21 at Pushepatapa Creek, 9 April-1987, 1 male, J. Daigle; So. Franklinton, highway LA-25, ward 1, Sec 23 or 24, 25 March-1984, 1 male, C.B. Barr, det WFM.

First records for Louisiana. [*CP>w]

Cordulegaster erronea Hagen in Selys, 1878.(= *Kalyptogaster erronea*). West Feliciana (JL)

This single record was based on a larva collected at "[West Feliciana Parish,] Tunica Bayou headwater trib. highway LA-66, 21 April-1973." Louton (1982) shows its primary range as mostly northern, with the nearest southern records being near the south Tennessee border. Tennesen (1995) reported it from northeast Alabama, and Harp (Pers. Comm.) reports it from Clark County Arkansas. [#E>w]

Cordulegaster maculata Selys, 1854. (= *Pangaeagaster maculata*). Bossier (VP), East Feliciana (JL), Jackson (J,JL), Natchitoches (JL), Rapides (D,F), St. Helena (F,L,W), St. Tammany, Webster, West Feliciana (JL).

Louton (1982) discussed the differences between Louisiana specimens and specimens from the eastern part of its range. He suggested that Louisiana, Texas, and Arkansas specimens might be different enough to warrant subspecies status and designated these as "ssp. A" (Mar 2-Apr-14) [E]

Cordulegaster obliqua fasciata Rambur, 1842. East Baton Rouge (JU), East Feliciana (JU),

Lincoln [as *C. fasciatus*] (JU) Webster [as *C. fasciatus*], Rapides (V), Vernon (V,V8).

I have not seen any of the above specimens. Harp and Harp (1996) reports it from adjacent Miller and Columbia Counties, Arkansas; and Donnelly (1978) reports *Cordulegaster o. obliqua* from east Texas. Voucher specimens from Louisiana are needed. [E]

CORDULIIDAE -MACROMIINAE

Didymops transversa (Say, 1839). Allen (W), Beauregard (V), East Feliciana, Evangeline (V), Grant, Jackson (JU), LaSalle (M,W), Livingston (F), Natchitoches, Ouachita (M), Rapides, St. Helena (F,W), St. Tammany, Tangipahoa, Vernon (D,V), Washington, Winn (JU). (Mar 12-Apr 17) [E]

Macromia illinoiensis georgina (Selys, 1878). (Nomenclature follows Donnelly and Tennesen (1994). Acadia (V), Allen (WW), Avoyelles (V), Beauregard (JL,V), Bossier (J), East Baton Rouge (Garcia, 1934,JU,W), East Feliciana (W), Evangeline (V), LaSalle, Livingston (D,JU), Ouachita (M,V as *illinoiensis*), Rapides (V), St. Helena (W), St. Landry (V), St. Tammany, Vernon (JA), Washington (D,JL), West Feliciana (W).

(May 12-Aug 31) [E]

Macromia taeniolata Rambur, 1842. Acadia (V), Beauregard (V), Caddo (JU), Catahoula, DeSoto (JU), East Baton Rouge (JL,JU), East Feliciana (JU), Jackson (JU), Lafayette, Livingston (JU), Madison, Morehouse, Natchitoches (JU), Ouachita, Rapides (L,JU), Richland (U), St. Helena (F), St. Landry (V), St. Tammany, Tangipahoa, Union, West Feliciana (JU,W), Winn (JL,JU).

(May 7-Aug 31) [E]

CORDULIIDAE- CORDULIINAE

Epitheca (Epicordulia) princeps (Hagen, 1861). Acadia (V), Allen, Avoyelles, Beauregard (V), Bossier (J,JU), Caddo (J,JU), Calcasieu (V), Caldwell (JU), Catahoula, Claiborne, DeSoto (JU), East Baton Rouge (W), Evangeline (L,V), Iberville (JU,L), Jefferson, Jefferson Davis (V), Lincoln (L), Livingston (F,JU), Madison, Morehouse (L), Natchitoches, Ouachita, Rapides, St. Helena (W), St. Landry, St. Tammany (F), Tangipahoa (JU,VP), Tensas (JU,L,VP) Union,

Webster (JU), West Baton Rouge (W), West Feliciana (J).

(Jun 23-Aug 19) [E]

Epitheca (Tetragoneuria) costalis (Selys, 1871). Calcasieu (D), St. Tammany (D), Tangipahoa (Tennessen, 1977), Washington (J).

Because it is reported from Arkansas (Harp and Harp, 1996), it should also occur in northern Louisiana. (Mar-25-May 2) [#E]

Epitheca (Tetragoneuria) cynosura (Say, 1839). Acadia (V), Allen (V,W), Beauregard (B,V), Caddo (B,J,JU,L), Calcasieu (V), Catahoula (J), DeSoto, East Baton Rouge (L,JU), East Feliciana (W), Evangeline (B,V), Iberia (B,V), Jackson, Jefferson, Jefferson Davis (V), Lafayette (B,V), LaSalle (J,W), Lincoln, Livingston (W), Natchitoches (B,JU,L), Orleans, Ouachita (M), Pointe Coupee, Rapides, Red River (JU,L), St. Helena (W), St. John the Baptist, St. Landry (V), St. Martin, St. Tammany, Tangipahoa, Tensas (VP), Union (VP), Vernon (D,V,V8,W), Washington, Webster, West Feliciana, Winn.

(Feb 17-May 8) [E]

Epitheca (Tetragoneuria) spinosa (Hagen, in Selys, 1878). Dunkle reports (Pers. Comm.) a single female in his collection with the following data: Washington Parish: Varnado, Pushepatapa Creek at highway LA-21, 9 April-1987.

Tennessen (1994) reports it from southwest Arkansas and southeast Oklahoma, so it probably occurs in northern Louisiana. [*CP>]

Epitheca (Tetragoneuria) stella Williamson in Muttkowski, 1911. Ouachita: highway US-80, 11 ml E. of Monroe, 14 April 1969, 1 male, coll. R.G. Kirkpatrick (Mulhern, 1971) (specimen in Northeast Louisiana University collection).

Muttkowski (1911) reported that Rjs had examined a specimen from Louisiana in the de Selys collection. Davis (1933) and Needham and Westfall (1955) listed it for the state. Monroe La. It is present also in Adams County, Mississippi (Kormondy, 1960). [#CP]

Helocordulia selysii (Hagen in Selys, 1878). East Feliciana (F), Lincoln, Natchitoches (JL), Rapides, St. Helena, St. Tammany, Tangipahoa (F), Vernon (V) Washington (F).

(Mar 12-Apr 10) [CP]

Neurocordulia alabamensis Hodges in Needham and Westfall, 1955. Jackson (JL), St. Tammany, Tangipahoa, Washington.

All these records are based on larvae, one of which was reared (Louton, 1982). [CPw]

Neurocordulia molesta (Walsh, 1863). Avoyelles (V), Bossier (L), East Baton Rouge (L), Evangeline (V), St. Helena (F), St. John the Baptist (J), St. Landry, Vernon (JL), Washington.

(May 20-Jul 9) [E]

Neurocordulia obsoleta (Say, 1839). Beauregard, Bayou Anacoco, 1 July-1978, 1 male, collector unknown. (Barr Collection)

This is the only verified specimen from the state. Although not a new record, this species is restored to the state list. Bick (1957) summarized historical Louisiana records and speculated that the New Orleans record of Burmeister (1839) was in error. It should be found in northwest Louisiana also, since there is a Columbia Co., Arkansas record (Harp and Rickett, 1977). [*E]

Somatochlora filosa (Hagen, 1861). Allen (V), East Baton Rouge (Garcia, 1934), St. Tammany (B9,D,L). Vernon (J).

Originally reported by Barr (1981) as a state record with no specific data, along with the specimen described below under *S. margarita*. Harp (Pers. Comm.) reports it from Bradley County, Arkansas, so it may occur in north Louisiana. (Jul 7-Sep 24) [#E]

Somatochlora georgiana Walker, 1925. Vernon (Daigle, 1994): Bayou Anacoco River, West of Pinewoods, 6 Aug-1954, 1 female. coll. S. M Russel, (George H Beatty collection).

The writer collected it in Jackson County, Mississippi. Both Daigle (1994) and Abbott (1996) reported it from Titus County, Texas, so it probably occurs elsewhere in the pinelands. [#CP]

Somatochlora linearis (Hagen, 1861). Allen (V), Beauregard (V), Bossier (JU), Caddo (J), Caldwell, DeSoto (JU), East Baton Rouge (JU,L), East Feliciana (F,W), Jackson, Lincoln, Livingston (JU,L), Rapides (V), Red River (L), Sabine (J), St. Helena (F), St. Tammany, Union (J,L). Vernon (J,V), Washington (G), West Carroll (J), Winn.

(Jun 12-Aug-17) [E]

Somatochlora margarita Donnelly, 1962. Bienville: Redfield Branch, 16 June-1980. coll J.E.B. (As "*provocans*" by JEB). Jackson: highway LA-556 near the Lincoln Parish line, 23 July-1973, 1 male, (NMNH, examined by Sid Dunkle, Pers. Comm)

Barr reported *S. provocans* as a new state record with no specific data. The writer examined this specimen and determined it to be *margarita*. The only other state from which it has been reported is Texas (Donnelly, 1962). [*U<e]

Somatochlora provocans Calvert, 1903. Washington: Crain's Creek, 8 June 1974, coll. Louton, NMNH, det SWD 1991 (Dunkle, Pers. Comm.).

Dunkle indicated that this is a new early date for the species and the westernmost record for the species. [*E>w]

LIBELLULIDAE

Brachymesia gravida (Calvert, 1890). (= *Cannacria gravida*) Acadia (V), Allen, Ascension (L), Assumption (L), Beauregard (V), Caddo (L), Calcasieu (U,V), Cameron, East Baton Rouge, Evangeline (V), Iberia (B,V), Jefferson, Jefferson Davis (J,V), Lafayette, Lafourche, Natchitoches, Ouachita, Orleans, Plaquemines, Pointe Coupee, Rapides (L), Sabine (V), St. Bernard, St. Charles, St. James (F), St. John the Baptist (D,F,L), St. Landry (V), St. Martin (B,L), St. Mary (L,V), St. Tammany, Tangipahoa (L), Tensas, Terrebonne, Vermilion, Vernon (V,V8), West Feliciana (W).

Often abundant in brackish marshes and ponds of the deltaic plain, less frequent northward in the state. (Apr 27-Oct 24). [E]

Celithemis amanda (Hagen, 1861). Beauregard (B), East Feliciana (W), St. Tammany, Vernon (V,V8,V8B) (Jun 17-Sep 9).

Collected in adjacent Union County, Arkansas (Harp and Harp, 1996), so probably occurs in north Louisiana also. [CP]

Celithemis berthae Williamson, 1922. Allen (V), St. Tammany: Abita Springs, 4.2 ml NE, at U-V Light, May-Sept, 1984-86, V.Brou, 23m, 2 f (in FSCA).

Vidrine (1988b) first reported it as a new state record with no specific data from the "Bogs and Baygalls of Central Vernon Parish". He compared the habitat to those "described for

similar ones in Southeast St. Tammany Parish" (Jul 5-Sep 23) [#CP]

Celithemis elisa (Hagen, 1861). Allen (V), Beauregard (G,L,V), Caddo (L,JU), Calcasieu (V), Claiborne, East Baton Rouge (L,JU), Jefferson Davis (V), Lincoln, Livingston (F,L,J,JU), Ouachita, Rapides (V), St. Helena (F,L), St. Tammany, Tangipahoa (F), Vernon (V), Washington.

(Mar 9-Sep 5) [E]

Celithemis eponina (Drury, 1773). Acadia (D,L,JU), Allen, Ascension (F,J,L), Avoyelles (L,J,JU), Beauregard (J), Calcasieu (F,U,V), Cameron (B,V), Claiborne, East Baton Rouge, East Feliciana (W), Evangeline (V), Iberia (B), Jefferson, Jefferson Davis (D,J,JU), Lafayette, Lafourche (JU), LaSalle (W), Lincoln (J,JU,L), Morehouse, Natchitoches, Orleans, Ouachita, Plaquemines, Rapides (J,JU,L), Red River (J,JU,L), Sabine (VP), St. Bernard (W), St. John the Baptist (F,L), St. Landry (V), St. Martin (B), St. Mary (J,JU,L), St. Tammany, Tangipahoa (L,JU), Tensas, Terrebonne (J), Vermilion, Vernon (V,V8), Webster, West Feliciana (W)

(Apr 21-Sep 7) [E]

Celithemis fasciata Kirby, 1889. Acadia (V), Allen (V), Beauregard (V), Caldwell (J), Claiborne, East Baton Rouge, East Feliciana (F), Evangeline (L), Grant, LaSalle (W), Lincoln (L,JU), Livingston (L,JU), Orleans, Ouachita, Rapides (V), Sabine (VP), St. Helena (F,W), St. Landry (V), St. Tammany, Tangipahoa (F), Vernon, Washington.

(May 17-Sep 10) [E]

Celithemis ornata (Rambur, 1842). Allen (V), Beauregard (B), Caddo (JU), St. Landry (JU), St. Tammany, Vernon (V,V8), Washington (W).

(Mar 12-Sep 9) [CP]

Celithemis verna Pritchard, 1935. Allen (JL,V), East Feliciana (F), Rapides (V), St. Tammany (D,F), Vernon (JL,V,V8,V8b), Washington (L,W).

(Apr 24-Jun 12) [#E]

Dythemis velox Hagen, 1861. LaSalle (W), Natchitoches (B8), St. Helena (W).

This species has expanded its range considerably in the last 30 years. When Bick and I did extensive collecting during the 50's and

60's, we did not see it. It is now fairly common in north Louisiana, especially at abandoned gravel pits. In southeast Louisiana it is now often found at roadside borrow pits and ponds, mainly to the east and north of Baton Rouge. (Aug 11-Sep 8). [#E]

Erythemis simplicicollis (Say, 1839). Reported from all 64 parishes. Parish records since Bick (1957) are: Assumption (L,JU), Concordia (L,JU), East Carroll (L,JU), East Feliciana (L,JU), Red River (L,JU), Richland (L,JU), St. John the Baptist (F,JU,W), Union (L,JU).

Common throughout the state. (Feb 18-Nov 18) [E]

Erythrodiplax b. berenice (Drury, 1770). Calcasieu (V,V9), Cameron, East Baton Rouge (JU), Iberia (V,V9), Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Mary (V,V9), St. Tammany, Tangipahoa (JU), Terrebonne, St. John the Baptist (W), Vermilion (V,V9).

The East Baton Rouge specimen is probably a vagrant, as this is a true brackish water species. I found adults several miles inland from the marshes in the Slidell (St. Tammany Parish) area during periods of windy conditions blowing from the marshes. At Lake Catherine (Orleans Parish) and North Shore (St. Tammany Parish), adults were sometimes seen by the thousands on warm summer days. (Apr 11- Nov 4) [CP]

Erythrodiplax minuscula (Rambur, 1842). Acadia (V), Allen, Assumption, Beauregard (B), Bienville, Calcasieu, Cameron (V), Claiborne, East Baton Rouge, East Feliciana (F,W), Evangeline (B,JU), Jefferson Davis, LaSalle (W), Lincoln, Livingston (F,J,JU), Natchitoches, Orleans, Ouachita, Rapides, St. Helena (F,J,JU,W), St. Landry (L,JU), St. Martin (B), St. Tammany, Terrebonne, Vermilion (L,V), Vernon (J,JU), Washington, Webster (L,JU), West Baton Rouge (J,JU,L)

(Apr 3-Dec 9) [E]

Erythrodiplax umbrata (Linnaeus, 1758). Jefferson, Lafayette (F), St. Tammany.

This species is abundant throughout subtropical and tropical America but is rare in Louisiana. (Sep 8- Sep 27) [E]

Libellula auripennis Burmeister, 1839. Acadia, Allen (L,J,V), Ascension (JU), Beauregard (J),

Bossier (JU), Caddo (JU), Calcasieu (J,V), Cameron (JU), Claiborne, DeSoto (JU), East Baton Rouge (J,JU), East Feliciana (W), Evangeline (V), Iberia (V), Jefferson Davis (D,V), Livingston, Natchitoches (J), Rapides (V), St. Helena (F), St. John the Baptist (W), St. Landry (V), St. Mary (J,V), St. Tammany, Tangipahoa (B,JU), Vermilion (V), Vernon, Washington (J), Webster (JU).

All historical records such as that of Wright (1943) from Orleans, have been excluded because they were before Westfall (1943) differentiated *needhami* and *auripennis*. Except for one specimen reported by Bick (1957), I do not know of any valid records for *auripennis* from the deltaic areas between New Orleans and New Iberia. This specimen was probably a vagrant from the pinelands north of Lake Pontchartrain where *auripennis* is common. Since *auripennis* and *needhami* are difficult to distinguish in the field, the Vidrine sight records need verification. (May 20-Sep 9) [E]

Libellula axilena Westwood, 1837. Beauregard (D), St. Tammany, Washington.

Bick (1957) doubted the validity of the Wright (1939) record from Orleans Parish. The Beauregard record is the westernmost verified record for the species. There are no verified specimens collected between the Washington-St. Tammany area and Beauregard area in the west. Records of Barr (1979) (Ascension, East Baton Rouge, Point Coupee, and Webster) are questionable, as the only specimens correctly labeled *axilena* by Barr in the LSU collection were from St. Tammany Parish. The remainder are *incesta* or *vibrans*. (May 23-Sep 9) [Ew]

Libellula cyanea Fabricius, 1775. Catahoula (J), Jackson (J), Madison (Foster, 1915), Ouachita (M), Rapides (V), Union (J). Washington (D), Pushepatapa Creek at highway LA-21, 3 May-1986, 1 male.

The Foster (1915) record was a sight record. Bick included it in his "records of species not seen by the writer" category and commented that it probably does occur in northern Louisiana. I examined the Barr specimens from Livingston Parish listed in his "handout" (1979), and found them to be *L. flavida* Dunkle's surprising Washington Parish record is the southernmost for this common widespread species. It should be found at more localities in the northern half of the state. It is often found at farm ponds and beaver ponds. (May 3-Jul 28) [#E^]

Libellula deplanata Rambur, 1842. (= *Ladona deplanata*). Acadia (V), Allen (V), Beauregard (V), Caddo (L,JU), Calcasieu (L,V), Caldwell (M), DeSoto (B), East Baton Rouge (F,JU), East Feliciana (F), Evangeline (B,V), Jefferson Davis (V), LaSalle (W), Lincoln, Rapides, St. Helena (F,W), St. Tammany (Bennefield, 1965,W), Union, Vernon (F,V,V8), Washington (D,J).
(Feb 21-May 6) [E]

Libellula flavida Rambur, 1842. Acadia (V), Allen (V), Beauregard (V), Calcasieu (V), Catahoula (J), East Baton Rouge (JU), East Feliciana, Evangeline (V), Jackson (J), Jefferson Davis (V), Lincoln, Pointe Coupee (JU), Rapides (D,V), Sabine, St. Landry (V), St. Tammany (L), Tangipahoa, Union, Vernon (D,V,V8), Washington (W), Webster (JU).

This widespread species is very localized and never abundant in Louisiana. (Apr 24-Sep 6) [E]

Libellula incesta Hagen, 1861. Acadia (D,V), Allen, Ascension, Avoyelles, Beauregard, Bienville (J), Bossier, Caddo, Calcasieu, Caldwell, Catahoula, Claiborne, Concordia (L,JU), DeSoto (L,JU), East Baton Rouge (F,L,JU,W), East Feliciana, Evangeline, Grant, Iberia (V), Jackson, Jefferson Davis (D,V), Lafayette, Lafourche (J), LaSalle, Lincoln, Livingston (F), Madison, Morehouse, Natchitoches, Ouachita, Pointe Coupee (L,J,JU), Rapides, Red River (F,J), Sabine, St. Helena, St. Landry (J,L,V), St. Martin (J,V), St. Mary (L), St. Tammany, Tangipahoa (D,J,L,JU), Union, Vernon, Washington, Webster, West Carroll, West Feliciana, Winn.

This very common and widespread species is absent from New Orleans and the surrounding deltaic plain. (May 17-Sep 25) [E]

Libellula luctuosa Burmeister, 1839. Bossier, Evangeline (V), Lincoln (L), Ouachita, Rapides (V), Sabine (V), St. Landry (V), Tensas (L,JU), West Carroll (J).

Neither Bick (1957) nor I found verified specimens in the southern half of the state. It is widespread in Texas, but probably will not be found in southeast Louisiana. (May 10 Aug 16) [E^]

Libellula lydia Drury, 1770. (= *Plathemis lydia*). Acadia (V), Allen, Ascension (F,L,JU), Avoyelles (JU, L.), Beauregard, Bienville,

Bossier, Caddo (J,JU,L), Calcasieu (J,V), Caldwell (J,JU), Catahoula, Claiborne, Concordia, DeSoto, East Baton Rouge, East Carroll, East Feliciana, Evangeline, Grant, Iberia (B), Iberville (F,L,JU), Jackson, Jefferson Davis (L,V), Lafayette, LaSalle, Lincoln, Livingston (F,L), Madison, Morehouse (J,L), Natchitoches, Orleans, Ouachita, Pointe Coupe (J,JU), Rapides, Red River, Richland, Sabine (L,V), St. Charles (F), St. Helena (F,L,W), St. James (J,JU), St. John the Baptist (F), St. Landry (L,V), St. Martin (B,V), St. Mary (L), St. Tammany, Tangipahoa, Tensas, Vermilion (V), Vernon (B,L,V,V8), Washington, Webster, West Baton Rouge (F,L,JU), West Carroll, West Feliciana, Winn (J,L).

This is another species absent from the New Orleans area and most of the deltaic plain. The historical 19th century record from Orleans (Hagen, 1875) was probably from St. Tammany Parish. (Mar 3-Nov 24) [E]

Libellula needhami Westfall, 1943. Acadia, Allen (L,JU), Ascension (F), Assumption, Beauregard (V), Bossier, Calcasieu, Cameron, East Baton Rouge, Evangeline (VP), Iberia, Jefferson, Jefferson Davis (V), Lafayette, Lafourche, Livingston (W), Orleans, Ouachita, Plaquemines, Pointe Coupe (L,J,JU), Rapides (VP), St. Bernard, St. Charles, St. James (F), St. John the Baptist (W), St. Landry (V), St. Martin (J), St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, Vernon (V8).

Bick (1957) discussed the distribution differences between *auripennis* and *needhami*, and reported huge concentrations of *needhami* in the New Orleans area. The writer noted the same when he lived there. (Apr 24-Sep 10) [CP]

Libellula pulchella Drury, 1773. Allen (JU), Calcasieu (U), Catahoula, East Baton Rouge, Lincoln, Livingston (L), Orleans, Ouachita, Pointe Coupee (JU), Richland (M), St. Tammany, Tangipahoa, Tensas (M), Washington, West Carroll.

This widespread species is rare in Louisiana, at least in the southern half of the state. I did not see it in the New Orleans area and believe that the Ris's (1910) and other historical records from the "New Orleans area" are actually from St. Tammany or Tangipahoa parishes just north of Lake Pontchartrain. The erroneous "previous records" of Barr (1979) and Vidrine (1992) are excluded. (Mar 28-Nov 7) [T]

Libellula semifasciata Burmeister, 1839. Allen, Ascension (JU), Beauregard (J,V), Bossier (JU), Caddo (JU), Calcasieu (V), Claiborne, East Baton Rouge (L,JU), Evangeline (V), LaSalle (W), Lincoln, Livingston (F), Rapides (V), St. Tammany, Tangipahoa (F), Vernon (V,V8,W), Washington.

(Mar 6 Aug 25) [E]

Libellula vibrans Fabricius, 1793. Acadia (D,J,L), Allen, Ascension (F,J,JU,L), Assumption (J), Avoyelles, Beauregard (J,JU,L), Bienville (J,JU,L), Bossier, Caddo (JU,L), Calcasieu, Caldwell (J), Cameron (V), Catahoula, Claiborne (J,JU), Concordia, DeSoto (J,JU,L), East Baton Rouge, East Feliciana, Evangeline, Franklin (J), Grant, Iberia, Iberville (JU,L,W), Jefferson, Jefferson Davis, Lafayette, Lafourche, LaSalle, Lincoln, Livingston, Madison, Morehouse, Natchitoches (B,J,JU,L), Orleans, Ouachita, Plaquemines, Pointe Coupee (JU,L), Rapides, Red River (J,JU,L), Richland (J), Sabine, St. Bernard, St. Charles, St. John the Baptist, St. Helena, St. James (JU,W), St. Landry, St. Martin (J), St. Mary, St. Tammany, Tangipahoa, Terrebonne, Union (J), Vermilion (V), Vernon, Washington, Webster (J,L), West Baton Rouge (JU,L), West Feliciana (J,L,W), Winn (B,L).

(Mar 26-Sep 25) [E]

Macrodiplax balteata (Hagen, 1861). Acadia (V), Calcasieu (V), Cameron (V), Jefferson Davis (V), Lafourche (J), St. Tammany.

Neither Bick (1957) nor I collected or saw this species in the field in Louisiana. Bick (1957) commented that he examined the 2 specimens collected at the old Lacombe fish hatchery. I examined a student-collected specimen from Fountainbleau State Park in 1964. Both of these St. Tammany Parish localities are only a few miles apart on the edge of the pinelands adjacent to brackish areas along the north shore of Lake Pontchartrain. Records of this species from other states indicates that it is often associated with brackish water. Voucher specimens are needed from other parishes. Orr (1988) reported it from east Texas. (Jul 2-Nov 18) [T]

Miathyria marcella (Selys in Sagra, 1857). Acadia (V), Allen (V), Ascension (F), Beauregard (V), Calcasieu (V), East Baton Rouge, Iberville (F), Lafayette (B), Orleans, Pointe Coupee (L), St. Bernard (F), St. Helena (F), St. Landry (L,V), St. Martin (B,V), St.

Tammany, Tangipahoa (J), Vermilion (V), West Feliciana.

Most collections of this species have been in October and November. It seems to be restricted to the southern half of the state. Its preferred breeding habitat is in water where water hyacinth (*Eichhornia crassipes*) grows, and this dragonfly is usually found in these places. (Bick, 1950) (Apr 13-Nov 24) [CP]

Orthemis ferruginea (Fabricius, 1775). Acadia (V), Allen, Avoyelles (V), Beauregard, Calcasieu (V), Cameron (B,V), Claiborne, Concordia, DeSoto, East Baton Rouge, Evangeline (V), Jackson (JU), Jefferson, Jefferson Davis (V), Lafayette, Livingston (F), Orleans, Rapides (V), St. Landry (V), St. Tammany, Vermilion (V), Vernon, Washington (D), West Carroll.

This widespread species was not very abundant anywhere. It appears to have two emergence peaks within Louisiana, one in the spring and one in the late summer-early fall. (Apr 27-Dec 1) [T]

Pachydiplax longipennis (Burmeister, 1839). Now reported from all 64 parishes. New records added since Bick (1957): Acadia (D,J,JU,L), Bienville (J,JU,L), Caldwell (J,JU,L), Concordia (J,JU,L), East Carroll (J,JU,L), Morehouse (J,JU,L), Pointe Coupee (J,JU,L), Red River (J,JU,L), St. James (JU,L).

Bick (1957) stated that this was the most frequent and abundant odonate in Louisiana. (Mar 9-Dec 2) [T]

Pantala flavescens (Fabricius, 1798). Present in all parishes but Washington and West Baton Rouge. New records added since Bick (1957): Acadia (J,JU,L), Ascension (JU,W), Bienville (J,JU,L), Caddo (JU), DeSoto (JU,L), Evangeline (JU,L), Iberville (F,JU), Livingston (F,JU), Red River (J,JU), Richland (J,JU), Sabine (JU), St. Bernard (F,JU), St. Helena (JU), St. John the Baptist (F,JU), Vernon (JU,V8), Webster (JU,L).

This common species is frequently encountered flying in parking lots and road intersections. On numerous occasions I encountered females ovipositing on the hood of my dusty dark blue car. (Apr 13-Dec 5) [T]

Pantala hymenaea (Say, 1839). Allen (J), Beauregard (D,V), Bienville (JU,L), Bossier (JU,L), Caddo, Caldwell, Cameron, Claiborne

(JU), DeSoto (JU), East Baton Rouge (JU,L), East Feliciana (W), Evangeline (V), Franklin (J), Grant, Jackson, Jefferson Davis (JU,L), Lafayette, Lafourche, Lincoln (JU), Madison, Morehouse (JU,L), Ouachita, Pointe Coupee, Rapides (V), Red River (J,JU), Richland (J), Sabine (V), St. John the Baptist (L), St. Landry (V), St. Martin (V), St. Tammany, Union, Vermilion (V), Vernon (V,V8), Webster (JU), Winn (J,JU).

(Jun 6-Sep 9) [T]

Perithemis tenera (Say, 1839). Recorded from all but 4 parishes (Cameron, Franklin, Plaquemines, and Terrebonne) Parish records added since Bick (1957) are Acadia (D,L,V), Bienville (L), Caddo (J,L), Iberia (B,V), Iberville (F,L), Jackson (L), Livingston (F,L), Richland (J), Sabine (V), St. Helena (L), St. John the Baptist (F), St. Landry (L), West Baton Rouge (F,L).

(Feb 1-Nov 21) [E]

Sympetrum ambiguum (Rambur, 1842). East Baton Rouge, Jackson (JU), Ouachita (M), Richland, St. Martin (B), St. Tammany, Winn (JU).

Bick (1957) discussed the preference of this species for shaded swamps and sloughs. It should occur in southwest Louisiana also, as it occurs in east Texas (Orr, 1988). (Jun 27-Nov 27) [E]

Sympetrum corruptum (Hagen, 1861). (= *Tarnetrum corruptum*). Acadia (V), Allen (V), Ascension (W), Bienville (J), Caddo (J), Calcasieu (V), Cameron (V), East Baton Rouge, East Feliciana, Evangeline (V), Iberville (L), Jefferson, Jefferson Davis (V), Lafayette, Lincoln, Natchitoches, Orleans, Plaquemines, Rapides (B), Sabine (V), St. Bernard (F), St. Charles, St. Landry (V), St. Tammany, Tangipahoa, Terrebonne, Washington (D).

Wright (1943) stated that this species flew from April to late fall. Both Bick (1957) and the writer found this species only in the spring and the fall. Donnelly (1978) also reported two separate periods of adult activity in east Texas. (Mar 23 -Apr 13 and Oct 31- Dec 20) [T]

Tramea carolina (Linnaeus, 1763). Allen, Ascension (JU,L), Beauregard, Caddo, Calcasieu (JA), Caldwell, Cameron, East Baton Rouge, East Feliciana (F), Evangeline (B), Grant, Jackson, Jefferson (B), Jefferson Davis,

Lafayette, Lincoln, Livingston, Madison, Morehouse (L), Natchitoches, Orleans, Plaquemines, Pointe Coupee (JU,L), Rapides (B,JU,L), St. Charles, St. Helena, St. John the Baptist, St. Tammany, Tangipahoa, Terrebonne, Vernon (V8), Washington, Webster (JU), West Feliciana (JU,L), Winn.

(Feb 24-Nov 15) [E]

Tramea lacerata Hagen, 1861. Acadia (V), Allen, Ascension (W), Avoyelles, Beauregard, Bossier (JU), Caddo (JU), Calcasieu, Caldwell (JU,L), Cameron, Claiborne, DeSoto (JU), East Baton Rouge (B,JU,L), Evangeline, Grant (JU), Iberia (V), Jefferson, Jefferson Davis, Lafayette, Lafourche, Lincoln, Madison, Morehouse (JU), Natchitoches, Orleans, Ouachita, Plaquemines, Rapides, Red River (B,JU,L), Sabine (JU), St. Charles, St. John the Baptist (D,F), St. Landry (JU,L), St. Martin (V), St. Mary, St. Tammany, Tangipahoa (W), Tensas, Terrebonne, Union, Vermilion, Vernon (D,V,V8), Washington, Webster, West Feliciana.

(Mar 30-Nov 5) [T]

Tramea onusta Hagen, 1861. Acadia (J,L,V), Allen, Beauregard, Caddo, Calcasieu, Cameron, Claiborne (JU), East Baton Rouge (J,JU,L), Evangeline (V), Iberia, Jefferson Davis (V), Lafayette, Rapides (V), Madison, Morehouse (JU), Orleans (B), Ouachita (M), St. Landry (V), St. Martin (V), St. Mary, St. Tammany, Vermilion, Vernon (V,V8), West Feliciana (JU), Winn.

(Mar 31-Sep 11) [T]

STRAY OR VAGRANT SPECIES

The following two species are not considered to have populations in Louisiana and their unexplained records indicate that they are accidental imports (as eggs or larvae) or have strayed as adults.

Anax amazili (Burmeister, 1839). Orleans. Calvert (1927) reported two female specimens collected in 1918 in the city of New Orleans by Ris. In spite of thorough modern collecting in the New Orleans area, *A. amazili* has not been taken. The specimen was either a stray, or the larva or adult came in on a ship at the port of New Orleans. Dunkle (1989) described it as a "vagrant" in southern Florida, the Dry Tortugas, and Texas. Its normal range is Mexico and the West Indies, south to Argentina. Donnelly (Pers.

Comm.) collected it in west Texas. Bick (Pers. Comm.) stated that the Louisiana record probably was based on a very rare stray. I consider this species as a vagrant or stray, without an established population.

Coryphaeschna viriditas Calvert, 1952. The only Louisiana record is a female at NMNH with the following data: "New Orleans, Tulane University, 5-11-58, at light." Dunkle (1989) reported it from the southern tip of Florida and the Keys. Its further range is from northern Mexico and the Greater Antilles south to Paraguay. The NMNH specimen was young and had perfect wings, so it may have been imported as an egg or larva and emerged in the Tulane University area of New Orleans. Alternatively it could have strayed as a young adult.

DOUBTFUL RECORDS

Records of the following are doubtful for one or more of the following reasons: misidentification, synonymy, and/or indefinite locality, reinforced in some cases by being well beyond the known range. Included here are a few unpublished records from institutional collections (e.g. *Amphiagrion saucium*), which are included as a reference for future researchers, in case these records are cited in future publications. A few of these species are also included in the "Expected Species" list below:

Lestes forcipatus Rambur, 1842. Reported from "lower Louisiana" (Foster and Smith, 1901; Foster, 1915). Louisiana is well south of its known range and Bick (1957) considered that Louisiana records should be *L. disjunctus australis*. Both Walker (1952) and Westfall and May (1996) discussed the taxonomic confusion between *forcipatus* and *disjunctus australis*.

Lestes rectangularis Say, 1839. Reported from "lower Louisiana" by Foster and Smith (1901). There are no specimens of this species from the state, but it is expected in Louisiana (see below).

Lestes unguiculatus Hagen, 1861. Cameron (Hine, 1906). This locality is far out of the known range. This widespread northern transcontinental species has been reported from Arkansas and Oklahoma by Westfall and May (1996), but not from any Gulf Coast state. If it

occurs in Louisiana, it should be only in the northern half of the state.

Lestes vidua (Hagen, 1861). Often listed for Louisiana because of the New Orleans type locality which is far west of the accepted range. I speculate that this specimen was mis-labeled. Westfall and May (1996) considered it doubtful for Louisiana and reported the nearest record being from Alabama.

Amphiagrion saucium (Burmeister, 1839). There are no published records of the species from the state. I include it here in case the record is inadvertently published in the future. In NMNH there are 6 males and 2 females in the pinned specimen collection, labeled "N.O.L.A./Shufeldt; RPC 1912". Dr. Flint confirmed the determinations. The specimens are almost certainly mis-labeled, as this species has not been recorded anywhere along the Gulf Coast. The nearest record is from north Alabama (Tennessee, 1995).

Argia barretti Calvert, 1902. Vidrine (1992) reported it from Vernon Parish based on a single specimen photographed at Fort Polk. After careful examination of the slide, I determined that it could not be verified as *barretti*, a species that occurs in south Texas and Mexico.

Enallagma aspersum (Hagen, 1861). Reported from "lower Louisiana" by Foster and Smith (1901). There are no verified records of this species, but it is expected in Louisiana (see below).

Enallagma pollutum (Hagen 1861) Reported from "lower Louisiana" by Foster and Smith (1901). Bick (1957) pointed out that this was prior to Calvert's (1919) description of the similar species, *E. vesperum*. There are currently no verified records of *pollutum* from Louisiana, but it is expected (see below).

Enallagma praevarum (Hagen, 1861) Bick (1957) discussed the history of this record. There are no verified records east of a line running north-south through San Antonio, Texas.

Ischnura verticalis (Say, 1839). Madison (Foster, 1915). Reported for the state by Westfall and May (1966) and by Bick (1957) under "Species not seen by the Writer." There are no modern records for *I. verticalis*. It may occur in

northern Louisiana, but all Arkansas records are from the northern third of Arkansas (Harp, Pers. Comm.). Abbott (Pers. Comm.) has no records from Texas.

Nehalennia irene (Hagen, 1861). Reported from Madison Parish (Foster, 1915), probably without knowledge of Calvert's 1913 description of *integricollis*. The known range of *N. irene* is far north of Louisiana (Westfall and May, 1996).

Nehalennia pallidula Calvert, 1913. Reported from Grand Isle, Jefferson Parish (Behre, 1950). This species is known only from southern Florida in the Everglades region (Westfall and May, 1996). Bick (1957) reported that George Beatty had a female in his collection from Grand Isle. At my request, Clark Shiffer examined the Beatty specimen and verified its identity. The specimen is actually a male. The data label states "Grand Isle Research station", "Plaquemine La", "in rear porch". There is no habitat suitable for *N. pallidula* in either Plaquemine or southern Jefferson Parish. The specimen may have either been mislabeled or blown in by a hurricane.

Gynacantha hyalina Selys, 1882. Williamson (1923) recorded a male in NMNH from Crowley, Acadia Parish, LA. as very close if not identical to the widely distributed oriental *G. hyalina*. He stated that if it had been really taken in Louisiana it was probably brought to the US as an egg or larva. This pinned specimen has the following data labels: 1st: "Crowley La./7.17.11" 2nd: "ESTucker// ", 3rd: "4", 4th: "Cur//Gynacantha //hyalina// Selys" (across end): "examined//EBW 1920" [the word "hyalina" is scratched out by pencil]. 5th: "very close// to hyalina E.B.W.10/6/20// locality label?"

Aphylla protracta (Hagen in Selys, 1859). Reported by Vidrine (1992), a determination assuredly based on Needham and Westfall (1955). Garrison (1986) assigns this citation to *A. angustifolia*.

Arigomphus lentulus (Needham, 1902). Needham and Westfall (1955) listed it for Louisiana. Westfall (Pers. comm, 1953.1957) considered that the record should probably refer to *A. submedianus*. Montgomery (1927) listed *Gomphus* sp. "in the *pallidus* group" from Madison Parish, and Westfall (Pers. Comm., 1970) stated that the specimen may be *A. maxwelli*. Vidrine (1992) listed unacceptable

sight records from 6 Parishes. Therefore there are no confirmed Louisiana records of *lentulus*. (See below under Expected Species)

Arigomphus pallidus (Rambur, 1842). All Louisiana references to this species, discussed in detail in Bick (1957), were prior to the description of *maxwelli* and probably refer to that species.

Gomphus (Gomphurus) fraternus (Say, 1839). Reported by Vidrine (1992) as a historical record. Louisiana is far southwest of the known range of *fraternus*.

Gomphus (Gomphurus) vastus Walsh, 1862. Vidrine (1992) lists sight records for Allen and Beauregard parishes; nevertheless, it may occur in Louisiana (see below under expected species).

Gomphus (Gomphus) abbreviatus Hagen in Selys, 1878. Reported from "lower Louisiana" (Foster and Smith, 1901). This northeastern species reaches south only to South Carolina. The only *Gomphus* from this species group found in Louisiana is *apomyius* which was not described until 1966 (Donnelly). The record could have referred to this species.

Gomphus (Gomphus) flavocaudatus Walker, 1940. Synonym of *G. exilis* (see Garrison, 1997).

Gomphus (Gomphus) minutus Rambur, 1842. Originally reported from "lower Louisiana" (Foster and Smith, 1901) This is far west of the known range of this species.

Gomphus (Gomphus) spicatus Hagen in Selys, 1854. Reported from "lower Louisiana" (Foster and Smith, 1901). Louisiana is far south of the known range of this northeastern species.

Ophiogomphus mainensis Packard, 1863. Bick (1957) reported it from Tangipahoa and Washington Parishes. Carle (1992) stated that these records should refer to *O. australis*.

Cordulegaster diastatops (Selys, 1854). (= *Zoraena diastatops*) Originally reported from the state by Walker (1958) prior to Carle's 1983 description of *bilineata*. Carle reported *diastatops* from several northeastern states and the southernmost record was from Virginia.

Helocordulia uhleri (Selys, 1871). Needham and Westfall (1955) and others have listed *H. uhleri* (Selys, 1871) from Louisiana; however, there are no specimens in FSCA, and all LA specimens of the genus examined were *H. selysii*. Bick (1957), in a footnote, discussed the confusion arising from the switched figures in Needham and Westfall (1955).

Neurocordulia virginienensis Davis, 1927. Bick (1957) reported one larva from St. Tammany Parish, but he now considers this as a probable misidentification (Pers. Comm.).

Epitheca (Tetragoneuria) semiaquea (Burmeister 1839). Reported by Vidrine (1992). While on a field trip with Vidrine, I collected several specimens that he identified as *T. semiaquea*. These specimens, however, were *T. cynosura*. (see also under Expected Species)

Epitheca (Tetragoneuria) spinigera Selys, 1871. Bick (1957) discussed this record, and he concluded that it was far beyond its range. Dunkle (Pers. Comm.) states that this record was based on a misdetermination.

Libellula exusta Say, 1839. Reported from "lower Louisiana" (Foster and Smith, 1901). Bick (1957) stated that Louisiana records of the northern species *exusta* should refer to *deplanata*.

Nannothemis bella (Uhler, 1857). Reported from "lower Louisiana" (Foster and Smith, 1901). This is another species with no verified record, but it may occur in Louisiana (see also under Expected Species).

Perithemis seminole Calvert 1907. Reported from Orleans Parish (Kormondy, 1960). This is a synonym of *tenera*.

Sympetrum vicinum (Hagen, 1861). Reported by Carle (1993) from Louisiana. Carle (Pers. Comm.) cannot recall the source of the data. (see also under Expected Species)

EXPECTED SPECIES

This category is presented to assist future researchers. These species have a reasonable probability of occurring in Louisiana, based on verified records from either Mississippi,

Arkansas, or East Texas, within 100 miles of the Louisiana border. Some of the species on this list are also included in the doubtful records list, due to lack of a verified records.

Lestes rectangularis (Say, 1839). Bick (Pers. Comm.) reports it from adjacent Hancock County, MS, so it may occur in the Washington-St. Tammany Parish area.

Enallagma aspersum (Hagen, 1861). Present in nearby Lawrence County, MS (F). U.S. distribution suggests that it may occur in northern Louisiana or even in the Washington Parish area.

Enallagma doubledayi (Selys, 1850). Recorded from adjacent Marion County, MS (Lago et al, 1980), just north of Washington Parish.

Enallagma pallidum (Root, 1923). Present in adjacent Hancock County, MS (F). It may occur in the St. Tammany- Washington Parish area .

Enallagma pollutum (Hagen, 1861). (See also "Doubtful Records"). There is a specimen from adjacent Hancock County, MS, in FSCA, so it possibly occurs in the St. Tammany -Washington Parish area.

Arigomphus lentulus (Needham, 1902). (See also "Doubtful Records"). There is a record of *lentulus* from Hunt County, TX (Harwell, 1951), and it is also reported from east Texas (Donnelly, 1978; Orr, 1988), so it could occur in western Louisiana.

Gomphus (Gomphurus) vastus Walsh, 1862. (See also "Doubtful Records"). Louisiana is entirely within the accepted range of this widespread eastern species. Nearby records include Rankin County, MS (F) and Franklin County, AR (F). and widespread in Texas (Donnelly, Pers. Comm.)

Gomphus (Gomphus) militaris Hagen in Selys, 1858. Reported from Marion County, TX (Harwell, 1951), and east Texas (Donnelly, 1978). It may occur in northwest and extreme west-central Louisiana.

Stylurus potulentus (Needham, 1942). Reported from Pearl River County, MS (Bick, 1983). It could occur in St. Tammany -Washington Parish area.

Stylurus townesi Gloyd, 1936. Pearl River County, MS (Bick, 1983). It could occur in the St. Tammany- Washington Parish area.

Epitheca (Tetragoneuria) semiaquea (Burmeister 1839). Donnelly (Pers. Comm.) reports this species as "common" in east Texas. Look for it in Louisiana.

Neurocordulia xanthosoma (Williamson, 1908). Harwell (1951) recorded it from adjacent Marion County, TX. It may occur in northwest Louisiana.

Nannothemis bella (Uhler, 1857 Present nearby in George County, MS (Westfall, 1952), and Jackson County, MS (F), which is about 75 miles east of the Pearl River/Louisiana border.

Sympetrum vicinum (Hagen, 1861 Collected in nearby Bradley County, AR (Harp, Pers. Comm.) but only from west and central Texas (Dunkle, Pers. Comm.). It may occur in north Louisiana.

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