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Distributional records and notes on 91 species of North American aquatic Coleoptera (Dytiscidae, Epimetopidae, Gyrinidae, Haliplidae, Hydraenidae, Hydrophilidae, Noteridae)

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October 2, 2026 **INSECTA MUNDI** 1210: 1–31

Distributional records and notes on 91 species of North American aquatic Coleoptera (Dytiscidae, Epimetopidae, Gyrinidae, Haliplidae, Hydraenidae, Hydrophilidae, Noteridae)

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Abstract. Records and notes on the distribution of 91 species of aquatic and semi-aquatic Coleoptera are provided for North America. This includes 56 species of Dytiscidae, 4 species of Epimetopidae, 2 species of Gyrinidae, 3 species of Haliplidae, 1 species of Hydraenidae, 23 species of Hydrophilidae, and 2 species of Noteridae. **New country records** include *Berosus punctatissimus* LeConte (Hydrophilidae) in Canada (southwestern British Columbia), *Helochares maculicollis* Mulsant (Hydrophilidae) in Canada (southern Ontario), *Hydrophilus ensifer* Brullé (Hydrophilidae) in Belize and Jamaica, *Hydrophilus insularis* Laporte de Castelnau (Hydrophilidae) in El Salvador and Honduras, and *Neoclypeodytes moroni* Arce-Pérez and Novelo-Gutiérrez (Dytiscidae) in the United States (southern Texas).

Key words. Aquatic insects, distribution, diving beetle, faunistics, Nearctic, Neotropics, new record, water beetle.

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Introduction

The aquatic and semiaquatic beetles (Coleoptera) have a long history of study and documentation of distributional records in North America (e.g., Hansen 1999; Larson et al. 2000; Vondel 2021). However, the scope and detail of effort have varied widely geographically and taxonomically. Over time, more specimens are collected, online platforms have made public engagement with insects and other biodiversity more accessible (Unger et al. 2020), and geographic ranges shift naturally and with direct human aid (Fenoglio et al. 2016; Rumpf et al. 2019). The growth in online platforms such as iNaturalist over the past decade has contributed greatly to documenting range extensions and filling distributional gaps among many different species (Mesoglea and Callaghan 2021; Skvarla and Fisher 2023). Records here that are based on online observations are heavily biased towards larger, common species and those with striking coloration or other characteristics that make them readily identifiable with photos. These characteristics make them more likely to be observed by the casual observer.

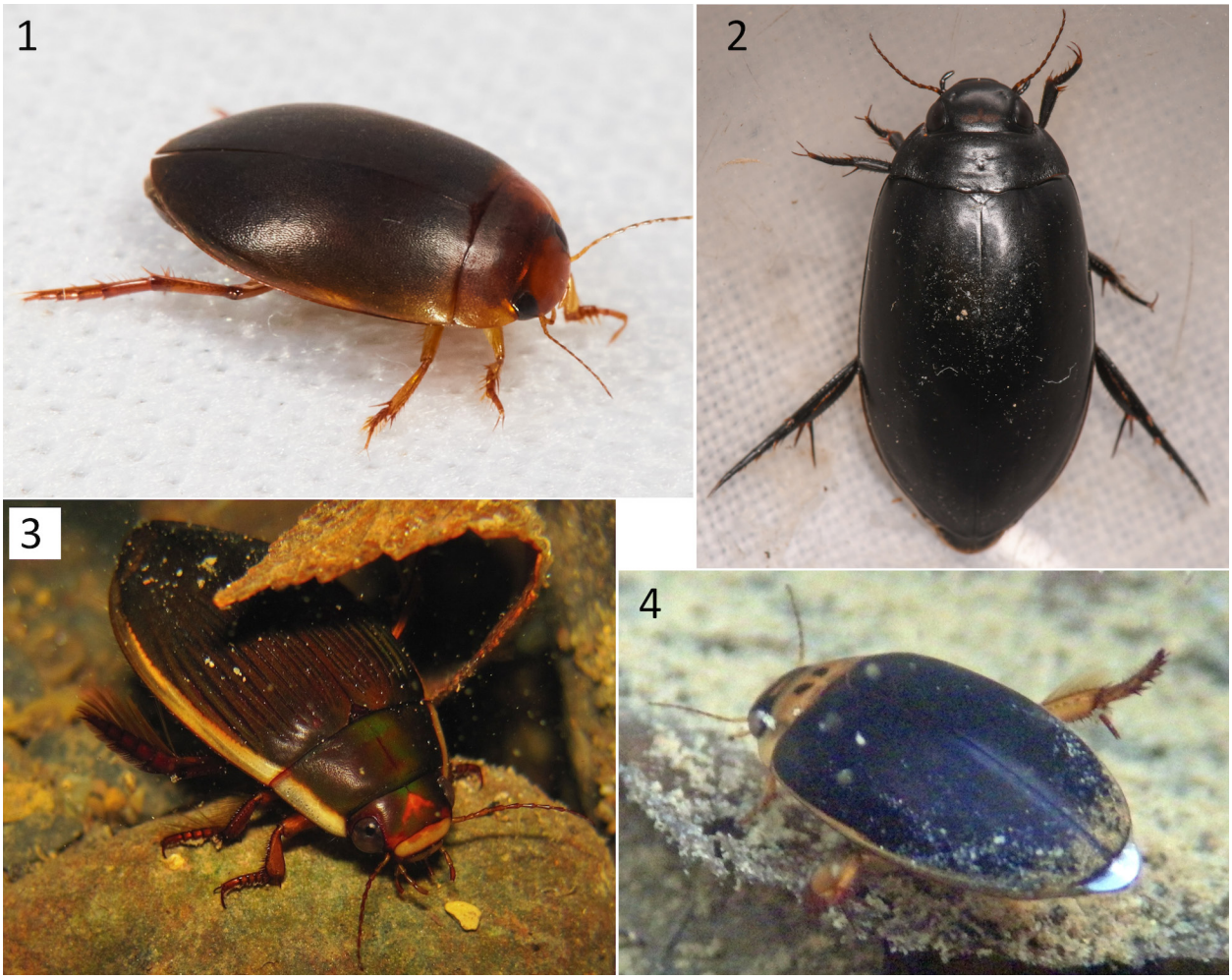
The increasing amount of data produces ever-changing distributions and geographic species checklists, particularly at the country and state or provincial levels, which have long been the most basic level of species occurrence reporting in biology. While state-level records provide a very basic level of species occurrence, their value can be limited, especially with many historical records that lacked specifics on localities, as well as for larger biogeographically diverse states (Hurlbert and White 2005). Nevertheless, many people still rely on state-level records when determining what species could occur in a given area, therefore updating these records and providing additional geographic and biological context to their occurrence still has value today (Guralnick et al. 2007; Meyer et al. 2015).

The aim in this paper is to report new records, provide notes on species' occurrence, and clarify the known distribution of various species of aquatic and semiaquatic beetles (including some riparian or shore beetles), along with allied terrestrial species in the same families (i.e., Hydrophilidae: Sphaeridiinae). The following includes

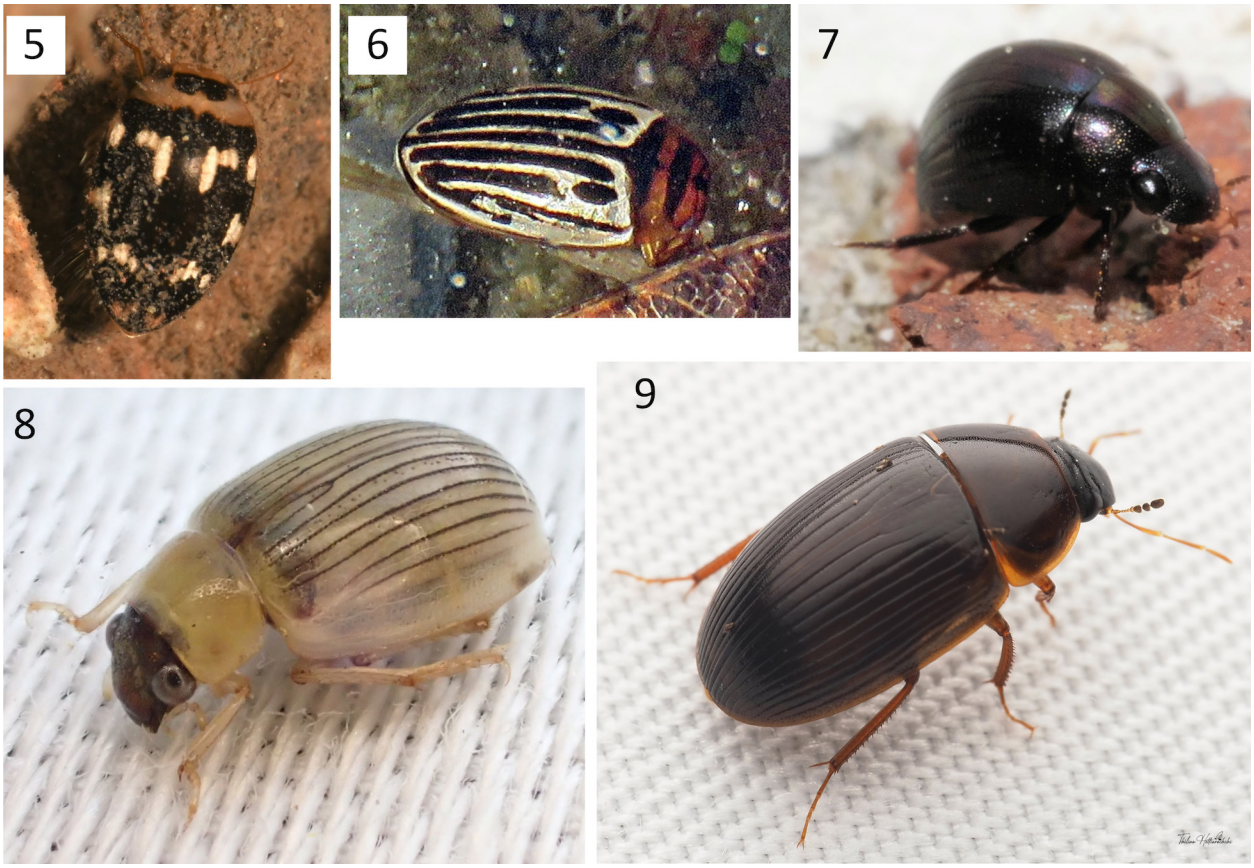
records from the families Dytiscidae, Epimetopidae, Gyrinidae, Haliplidae, Hydraenidae, Hydrophilidae, and Noteridae in North America, ranging from Panama to Canada and including the Caribbean.

Materials and Methods

Records here are based on specimens that I collected (primarily in Texas, but also other states), specimens previously deposited in collections that I examined, and online observations (primarily from iNaturalist.org [e.g., Fig. 1–9], but also some from BugGuide.net). I identified all physical specimens in collections, while I also identified or confirmed the identification of all online observations (listed under Matthew Pintar or username mpintar); no records here are based on others' identifications or database records that were not personally verified. The majority of the iNaturalist observations have been included in the GBIF.org dataset (iNaturalist contributors 2026), but others are not due to restrictive licensing, for which users were contacted for permission to include, or have not yet reached their "research grade" status for incorporation into GBIF. Collection data were obtained from BugGuide.net, iNaturalist.org, or GBIF.org for iNaturalist data housed there. Counties (abbreviated Co. or cos.) were



Figures 1–4. Photographs of live Dytiscidae from iNaturalist. Images were cropped from the originals and the photographers and Creative Commons (CC) licenses for each photograph are in parentheses. **1)** *Agabetes acuductus* in Carroll Co., New Hampshire (Ken-ichi Ueda; CC BY). **2)** *Rhantus atricolor* in San Bernardino Co., California (Trevor Van Loon; CC BY). **3)** *Dytiscus carolinus* in McCurtain Co., Oklahoma (Robby Deans; CC BY-NC). **4)** *Rhantus gutticollis* in Logan Co., Arkansas (Dustin Lynch, Arkansas Natural Heritage Commission; all rights reserved, used with permission of photographer).



Figures 5–9. Photographs of live Dytiscidae and Hydrophilidae from iNaturalist. Images were cropped from the originals and the photographers and Creative Commons (CC) licenses for each photograph are in parentheses. **5)** *Laccophilus horni* in Grant Co., New Mexico (Joe Girgente; CC BY-NC). **6)** *Agabus disintegratus* in Yarmouth, Nova Scotia (Laurel Amirault; CC BY-NC). **7)** *Derallus altus* in Mayes Co., Oklahoma (Robert Webster; CC BY-SA). **8)** *Berosus metalliceps* in Hidalgo Co.; Texas (username: cattraylor; CC BY). **9)** *Cymbiodyta bifida* in Manitoba (Thilina Hettiarachchi; CC BY).

added to the dataset and determined based on coordinate locations for records included in the text. While many of the records presented are clearly new country, state, or provincial records (presented as "**new country/state/provincial/territory record**"), others are not necessarily as clear, due to issues such as scarce literature, being well within the expected distribution of the species, a long history of specimens being collected but not reported from a location, literature that missed or misinterpreted prior records, or records that were only included in unpublished reports or theses. I include records to clarify or extend the distribution in cases where it may have been ambiguous ("clarified records"), while other records are included as "additional records." Records are listed by state/province for Canada, Mexico, and the United States and country for any records in Central America and the Caribbean.

Physical specimens were examined from, or deposited in, the following collections:

CSUC	C.P. Gillette Museum of Arthropod Diversity, Colorado State University, Fort Collins, Colorado
EGRC	Edward G. Riley collection, College Station, Texas
FMNH	Field Museum of Natural History, Chicago, Illinois
MRPC	Matthew R. Pintar collection, San Marcos, Texas
MSBA	Museum of Southwestern Biology, Division of Arthropods, University of New Mexico, Albuquerque, New Mexico
NMSU	New Mexico State University Arthropod Collection, Las Cruces, New Mexico
SRSU	Jim V. Richardson Invertebrate Collection, Sul Ross State University, Alpine, Texas

TAMU Texas A&M University Insect Collection, College Station, Texas
TTU-Z Invertebrate Zoology Collection, Museum of Texas Tech University, Lubbock, Texas
UMNH Natural History Museum of Utah, Salt Lake City, Utah
USNM National Museum of Natural History, Smithsonian Institution, Washington, DC
USU Utah State University, Logan, Utah
UTIC University of Texas Insect Collection, Austin, Texas

Standardized label data are provided in the Appendix, and locality data are summarized in the text. Verbatim data on all specimens/observations that are part of this paper are available in a dataset archived on Figshare (Pintar 2026) that includes links to all online observations. Figures of photographs from iNaturalist observations are provided as examples with credit to the observers. I photographed other specimens using a Canon R8 camera with a Canon MP-E 65 mm lens with photos stacked in Zerene Stacker and processed to crop and remove backgrounds. One map was generated using the ggplot2 package version 3.5.2 in R version 4.5.1 (Wickham 2016; R Core Team 2025). For the range descriptions of some taxa, I sometimes refer to 94°W longitude, which roughly corresponds to the eastern borders of Kansas, Oklahoma, and Texas, as well as 100°W longitude, which is roughly the transition between the semi-arid and humid climates in the Central United States.

Results

Dytiscidae

Agabinae

Agabus disintegratus (Crotch)

New state/provincial records for Nova Scotia (Fig. 6), Louisiana, Minnesota, Washington, West Virginia, and Wyoming. The species is transcontinental, known from 42 of the lower 48 states and southeastern Canada (Larson et al. 2000) and surely must occur in northern Mexico as I have collected it adjacent to the border in southeastern Arizona and the Big Bend region of Texas; apparently not recorded in Florida, Maine, Montana, North Dakota, Rhode Island (but see Sikes 2004), or Vermont.

Agabinus glabrellus (Motschulsky)

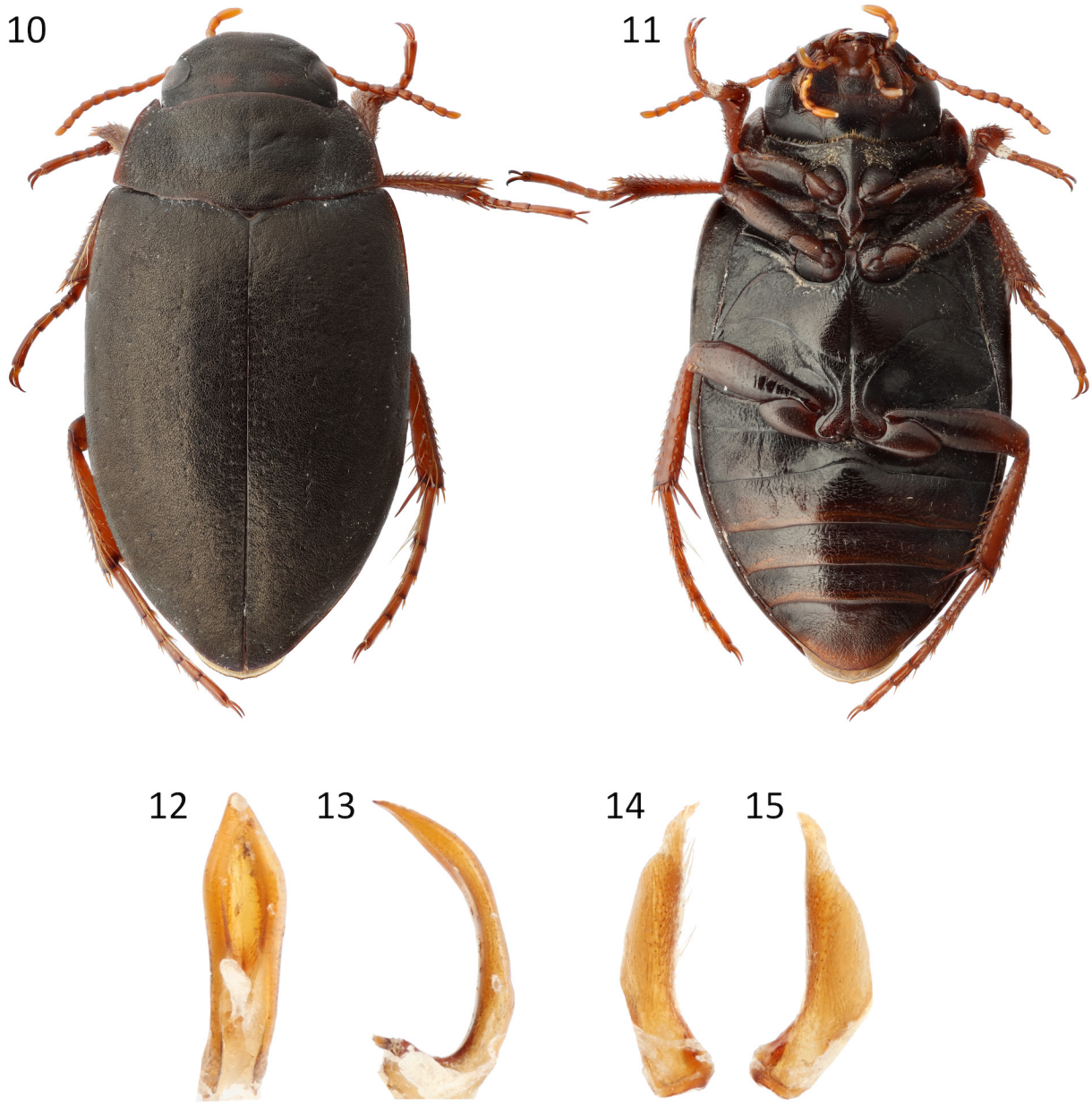
New state record for Nevada (Clark Co.); primarily occurs along the Pacific coast from British Columbia through California (Larson et al. 2000).

Ilybius oblitus Sharp

New state record for Texas (Wise Co.); this species occurs across the eastern United States and was previously recorded as far west as Kansas and Louisiana (Larson 1987).

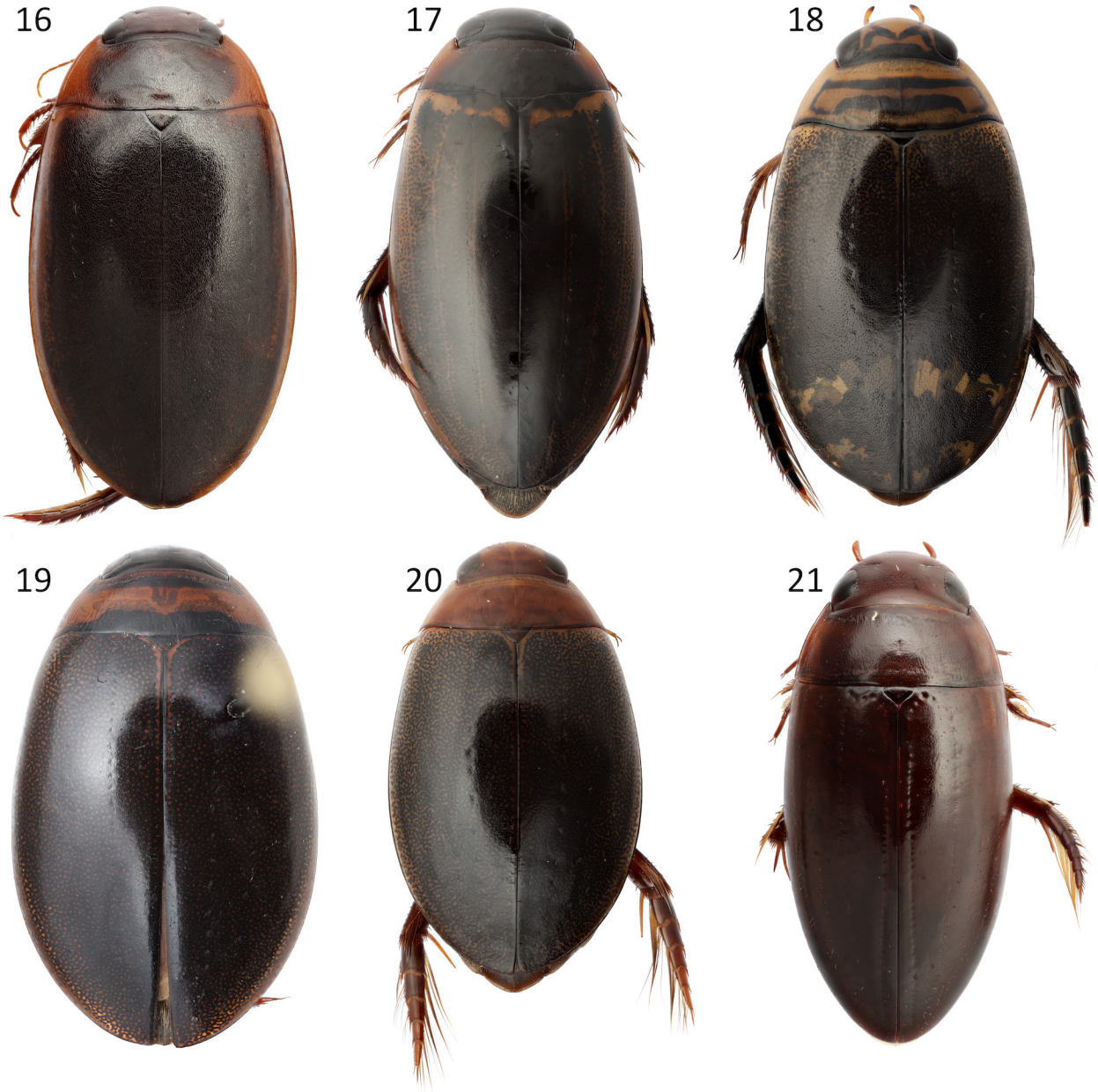
Platambus apache (Young)

New state record for Texas (Jeff Davis Co.; Fig. 10–15); known from a few seeps and springs in the sky islands of southeastern Arizona, the Organ Mountains of New Mexico (Young 1981; Alarie et al. 2025), and into Mexico (Arce-Pérez and Roughley 1999; no collection locations were reported). I recently found the species at three spring areas (Bridge, Peewee, and Tobe springs) at elevations ranging from 2090–2385 m on the north side of Mount Livermore, Jeff Davis Co., Texas in The Nature Conservancy's Davis Mountains Preserve. I conducted repeated surveys during 2023–2025 at two other springs on the preserve that were not on the north side of Mount Livermore, Pine Peak Spring (2110 m, 5.6 km ENE of Bridge Spring) and Limpia Spring (1928 m, 2.8 km ESE of Bridge Spring); I found no specimens at these springs, although one female was collected at Limpia Spring in 2000. One other high elevation spring off the preserve property could potentially support this species but is



Figures 10–15. *Platambus apache* adult male from the Davis Mountains, Texas (body length = 6.5 mm). **10)** Dorsal habitus. **11)** Ventral habitus. **12)** Aedeagus dorsal. **13)** Aedeagus lateral. **14–15)** Parameres.

inaccessible. There is the possibility that springs in the Chisos and Guadalupe mountains support this species, but most spring sites in those ranges are generally at a lower elevation than those in the Davis Mountains. The limited habitat and potential geographic isolation of this population could mean that long-term aridification of the Davis Mountains may threaten the persistence of this species in the state.



Figures 16–21. Dorsal habitus of Dytiscidae spp., body lengths in parentheses. **16)** *Hoperius planatus* from Durham Co., North Carolina (13.9 mm). **17)** *Meridiorhantus calidus* from Franklin Co., Arkansas (13.2 mm). **18)** *Acilius mediatus* from Sabine Co., Texas (11.8 mm). **19)** *Graphoderus fascicollis* from Wilson Co., Tennessee (14.3 mm). **20)** *Graphoderus liberus* from Houston Co., Texas (11.5 mm). **21)** *Matus relictus* from Calhoun Co., Texas (8.7 mm).

Colymbetinae

Hoperius planatus Fall

New state records for Indiana (Vanderburg Co.) and Louisiana (Iberville Parish); additional records from Alabama, Delaware, Georgia, Maryland, North Carolina (Fig. 16), South Carolina, Tennessee, and Virginia. This is a rarely encountered species that ranges across the eastern United States and is likely to be found in all southeastern states; now recorded from 13 states (also Arkansas, Kentucky, and Texas) (Barman et al. 2014; Leavengood et al. 2024).

Meridiorhantus calidus (Fabricius)

New state records for Arkansas (Franklin Co.; Fig. 17), Delaware (Sussex Co.), Indiana (Leavenworth Co.), Kentucky (Edmonson and Warren cos.), and Oklahoma (Mayes Co.) in the United States, and Guanajuato and Quintana Roo in Mexico; clarified record for Kansas (Leavenworth Co.) since it was only previously listed by Popenoe (1877). This species primarily occurs on the coastal plain from New York southwards, but is rarely found in the central United States; it also occurs in southeastern Arizona and much of Mexico to South America (Zimmerman and Smith 1975; Pintar 2024b).

Neoscutopterus angustus (LeConte)

New state record for Alaska (Sitka CC [consolidated city-county]); transcontinental species recorded in northern British Columbia, Canada (Larson et al. 2000).

Rhantus atricolor (Aubé)

New state record for California (near Kingston Peak, San Bernardino Co.; Fig. 2); this species primarily occurs from southern Arizona to west Texas and to southern Mexico (Zimmerman and Smith 1975).

Rhantus gutticollis (Say)

New state record for Arkansas (Logan Co.) and the easternmost record in the southern United States (Larson et al. 2000); a male with distinctive mostly black elytra was observed near the state's highest point (Fig. 4). This species also occurs more widely in the western two-thirds of Texas (into central and north Texas) than reported by Zimmerman and Smith (1975). Although one record of *R. binotatus* (Harris) was reported from Texas (Zimmerman and Smith 1975), I have seen no evidence of that species' occurrence in the state, and it could have been a misidentified *R. gutticollis*.

Rhantus sericans Sharp

New state record for Arizona, on the Kaibab Plateau (Coconino Co.); this is a northern species previously reported from southern Utah (Zimmerman and Smith 1975).

Copelatinae

Copelatus caelatipennis Aubé

New state record for New York (Nassau Co.); recorded from every state southward along the Atlantic and Gulf coasts except Delaware (Young 1963).

Copelatus chevrolati Aubé

New state records for Kentucky (Hopkins and Warren cos.), Nevada (Clark Co.), Ohio (Hamilton Co.), Virginia (Chesapeake), and Guanajuato; wide-ranging species, from Maryland and Ontario to Florida, South Dakota, California and south into Mexico (Young 1963; Larson et al. 2000; Staines 2008).

Cybistrinae

Cybister fimbriolatus (Say)

Known to occur in basically every state east of the Rockies and the southwestern United States into Mexico, but no catalog was provided by Miller (2013). This is by far the most observed dytiscid species in the United States on iNaturalist. The only state east of 100°W without a published record or iNaturalist observation is Vermont, while in the western states it also occurs in Arizona, California, Colorado, and New Mexico (Miller 2013). I collected

two specimens in the Great Basin of northwestern Utah (Tooele Co.), typically where *C. explanatus* LeConte would be expected. Additionally, larvae have been observed in southern Ontario (Durham, Essex, and Middlesex cos.), indicating the province supports a breeding population in contrast to the previous suggestion by Larson et al. (2000).

Dytiscinae

Acilius confusus Bergsten

A female is a **new state record** from Tennessee (Hamilton Co.); a primarily east coast species with few records west of the Appalachian Mountains (Bergsten and Miller 2006).

Acilius mediatus (Say)

New state records for Alabama (Lawrence, Lee, Perry, Pike, St. Clair, and Winston cos.), Arkansas (Cleburne, Franklin, and Washington cos.), and Louisiana (Lincoln Parish); clarified record for Texas (Sabine Co.; Fig. 18). This species has been reported from each Canadian province from Manitoba to Nova Scotia and every US state east of 94°W longitude. Although previously listed from Texas, there was no information on its occurrence; there remain only state-level records for Kansas and Nebraska (Larson et al. 2000; Bergsten and Miller 2006).

Acilius sylvanus Hilsenhoff

New state record for South Dakota (Union Co.), just across the border (Missouri River) from Nebraska, which does not have a record (Bergsten and Miller 2006).

Dytiscus carolinus Aubé

New state records for Louisiana (Caddo and Vernon parishes), Oklahoma (McCurtain and Tulsa cos.), and Texas (Cooke, Lamar, Morris, and San Jacinto cos.); a species that primarily ranges across the southeastern United States but also north to Wisconsin and Connecticut (Roughley 1990).

Dytiscus fasciventris Say

Additional record from Maryland (Allegany Co.); previously reported from the state by Staines (1986), which was excluded from later reviews (Roughley 1990; Larson et al. 2000). This species is typically found further north in the northeastern United States and southern Canada.

Dytiscus verticalis Say

Two observations of *Dytiscus* that had a distinct sub-apical fascia from western North Carolina were posted to iNaturalist. These should be *D. verticalis*, which would be new records for the state. However, without ventral photos or specimens I consider that these records need further validation as occasionally some *D. carolinus*, especially dry, dead specimens, will have elytral coloration that somewhat resembles *D. verticalis*. Additionally, other records from the coastal plain and piedmont regions of southeastern states have possibly been confused (e.g., Turnbow and Smith 1983).

Graphoderus fascicollis (Harris)

New state record for Tennessee (Wilson Co.; Fig. 19) and southernmost record (Larson et al. 2000); possibly a vagrant since this male was collected at a UV light.

Graphoderus liberus (Say)

New state records for Arkansas (Franklin, Washington, White, and Yell cos.), Kansas (Jefferson Co.), Kentucky (Estill Co.), Montana (Flathead Co.), Nebraska (Cass and Lancaster cos.), Oregon (Lane Co.), Texas (Brazos, Clay, Houston [Fig. 20], and Wise cos.), and Virginia (Augusta, Giles, and Pulaski cos.). This species has been recorded in every state east of 94°W longitude except for Delaware, Louisiana, Tennessee, and West Virginia; to the west of 94°W longitude it has been recorded in Idaho, North Dakota, Oklahoma, and Washington, as well as much of Canada (Larson et al. 2000; Hanson et al. 2004; Alarie 2016).

Graphoderus perplexus Sharp

New state records for Arizona (Coconino Co.), Colorado (Denver CC), and Oregon (Benton, Clackamas, and Douglas cos.); there are sparse records of this species around the western United States (Kirk and Balsbaugh 1975; Challet and Brett 1998; Larson et al. 2000).

Hydaticus aruspex Clark

New state records for Idaho (Kootenai Co.) and Nebraska (Cherry Co.); this is a transcontinental northern species (Roughley and Pengelly 1981; Larson et al. 2000).

Hydaticus bimarginatus (Say)

New state records for Illinois (Washington Co.), Kansas (Coffey and Douglas cos.), Kentucky (Clinton, Edmonson, and Hopkins cos.), Massachusetts (Barnstable Co.), Missouri (Iron Co.), and New Mexico (Chaves Co.); this is a common species in much of the southeastern United States (Roughley and Pengelly 1981; Larson et al. 2000). Clarified record for Indiana (Gibson Co.), where the only previous Indiana record was listed as Dunes State Park by Schnepp et al. (2022), which is unusually far north and more likely to be *H. aruspex*.

Thermonectus basillaris (Harris)

This is a very common species in much of the eastern United States. However, published state records from Larson et al. (2000) do not match the distribution from the unpublished thesis of McWilliams (1968), which has often been used as a reference on the genus. Here, I reconcile most of these differences by providing clarified records for Illinois, Kansas, Louisiana, Massachusetts, New York, and West Virginia. Note the subspecies and "intergrades" from western states listed by McWilliams (1968) are currently considered *T. intermedius* Crotch (Larson et al. 2000). The only state in the eastern United States that McWilliams (1968) provided a record for but for which I have not seen a specimen from is Michigan; otherwise, this species has been recorded in all states east of 94°W longitude except Connecticut, Maine, Minnesota, New Hampshire, and Vermont. It also occurs in southernmost Ontario, west to approximate 100°W longitude in Texas, Oklahoma, and Kansas (Larson et al. 2000; Sikes and Webster 2005; Williams et al. 2007; Hubbard 2017), and south into the Neotropics.

Thermonectus intermedius Crotch

New state records for Kansas and Chihuahua; clarified records for Texas and Utah. The Texas and Utah records are based on the report of intergrades by McWilliams (1968). In Utah this species was found at the same site in northwestern Utah (Tooele Co.) as where *C. fimbriolatus* was found. It is known to occur primarily in California and the southwestern states (Arizona, Colorado, Nevada, New Mexico) (Larson et al. 2000; Kondratieff and Durfee 2010). Specimens collected from the intermountain region generally seem to exhibit some intermediate characteristics between eastern *T. basillaris* and *T. intermedius* from California, as suggested by McWilliams (1968).

Thermonectus marmoratus (Gray)

New state record for Nevada (Clark Co.); the most iconic aquatic beetle species in the southwestern United States and Mexico, and is commonly reported. It has been well-documented in Arizona, southern New Mexico, and central and west Texas; it also occurs into southeastern Utah and southeastern California. It has been recorded from every state in Mexico except Campeche, Quintana Roo, Tabasco, and Yucatán as well as Aguascalientes and Coahuila (but the latter two states are well within its range) (Arce-Pérez and Roughley 1999). This species has also been recorded along the Colorado River in Utah to within ~7.5 km of the Colorado border, where it may eventually be found. There are also range-extending records from Randall and Briscoe cos. in the Texas Panhandle and Coryell Co. in central Texas.

Thermonectus nigrofasciatus (Aubé)

New state records for Minnesota (Blue Earth, Rock, and Wabash cos.) and South Dakota (Davison Co.); recorded from much of the central United States to North Dakota, but rarely reported in the east (Larson et al. 2000).

Thermonectus zimmermani Goodhue-McWilliams

New state record for Guerrero; known from only four other states (Colima, Cuernavaca, Jalisco, Nayarit) in a relatively limited area of southwestern Mexico (Goodhue-McWilliams 1981).

Hydroporinae

Celina grossula LeConte

New state record for Texas (Brazos Co.; Fig. 22); previously recorded from Louisiana to Florida and Cuba (Young 1979).

Celina hubbelli Young

New state records for Connecticut (New Haven Co.), Delaware (New Castle and Sussex cos.), Louisiana (Calcasieu, East Baton Rouge, Evangeline, Iberville, Jefferson, Lincoln, St. Landry, St. Tammany, Vernon, and West Feliciana parishes), Massachusetts (Middlesex and Worcester cos.), Minnesota (Anoka Co.), New Hampshire (Hillsborough Co.), and South Dakota (Brookings Co.); known from most of the eastern United States and southeastern Canada (Larson et al. 2000). *Celina hubbelli* is the most (and often only) recognizable species of *Celina* in photos are due to the lighter anterior portion of the elytra in mature specimens.

Celina slossoni Mutchler

New state record for Texas (Calhoun [Fig. 23] and Robertson cos.); males were slightly smaller (4.1 mm) than the length existing keys use for differentiation (Young 1979; Larson et al. 2000) but genitalia were distinctive.

Clarkhydrus corvinus (Sharp)

New state record for Texas, found in the interior of Big Bend Ranch State Park (Presidio Co.; Fig. 24); known from Arizona and southwestern New Mexico through Mexico (Zimmerman 1982).

Clarkhydrus decemsignatus (Clark)

New state record for Texas (Brewster, Kimble, Presidio, and Val Verde cos.); due to collection from the Rio Grande, it should also be considered as occurring in Chihuahua and Coahuila. This species was previously recorded from Arizona and southwestern New Mexico to southern Mexico (Zimmerman 1982). All Texas specimens have elytra that are predominantly tan yellow with reduced dark sutural and lateral blotches (Fig. 25) and have occurred in larger streams. While Zimmerman (1982) considered these to be variants of *C. decemsignatus*, they may represent a separate species (K.B. Miller pers. com.).



Figures 22–27. Dorsal habitus of Hydroporinae spp. (Dytiscidae), body lengths in parentheses. **22)** *Celina grossula* from Brazos Co., Texas (6.7 mm). **23)** *Celina slossoni* from Calhoun Co., Texas (4.9 mm). **24)** *Clarkhydrus corvinus* from Presidio Co., Texas (4.8 mm). **25)** *Clarkhydrus* cf. *decemsignatus* from Brewster Co., Texas (4.3 mm). **26)** *Clarkhydrus roffii* from Presidio Co., Texas (4.5 mm). **27)** *Heterosternuta phoebeae* from Barry Co., Missouri (3.7 mm).

Clarkhydrus roffii (Clark)

This species occurs from central Arizona, southern New Mexico, and west Texas south into Mexico (Zimmerman 1982). Extensive collecting in the Hill Country and elsewhere in Texas has not documented the species outside of the Chihuahuan Desert (Brewster, Jeff Davis, and Presidio cos.; Fig. 26). Shaverdo (2012) claimed a record from Louisiana based on an unlabeled specimen, but that state is far outside the biogeographic realm of this species and the record is likely in error.

Heterosternuta phoebeae Wolfe and Harp

New state record for Missouri (Barry Co.; Fig. 27); previously considered endemic to northern Arkansas, but known to occur in the Kings River watershed in which this Missouri record was found (Wolfe and Harp 2003; Longing et al. 2013).

Hygrotus wardii (Clark)

New state record for Texas (Jeff Davis Co.; Fig. 28); recorded from southeastern Arizona and southwestern New Mexico through Mexico (Anderson 1983). This species is common in ponds in the Davis Mountains but has not been found at lower elevations or elsewhere in western Texas.

Liodessus flavicollis (LeConte)

New state record for Nebraska (Lancaster Co.) and second record for North Carolina (Carteret Co.). This species is widespread in the eastern United States and southeastern Canada but rarely reported from the southeastern states. South of Pennsylvania and the Ohio River, it has been reported from Alabama (Folkerts 1978), Delaware, Florida, Maryland (Staines and Staines 2005), Mississippi, Missouri (Whiteman and Sites 2003), North Carolina (Beaty 2011), Texas, and Virginia (Larson et al. 2000).

Neobidessus pullus pullus (LeConte)

New state record from North Carolina (Beaufort [Fig. 29], Durham, Northampton, and Pitt cos.). Not included by Beaty (2011), but it can be common on the Coastal Plain and occurs into the Piedmont.

Neoclypeodytes moroni Arce-Pérez and Novelo-Gutiérrez

New country record for the United States in Cameron Co., Texas (Fig. 30); previously known only from Veracruz (Arce-Pérez and Novelo-Gutiérrez 2015).

Neoporus dimidiatus (Gemminger and Harold)

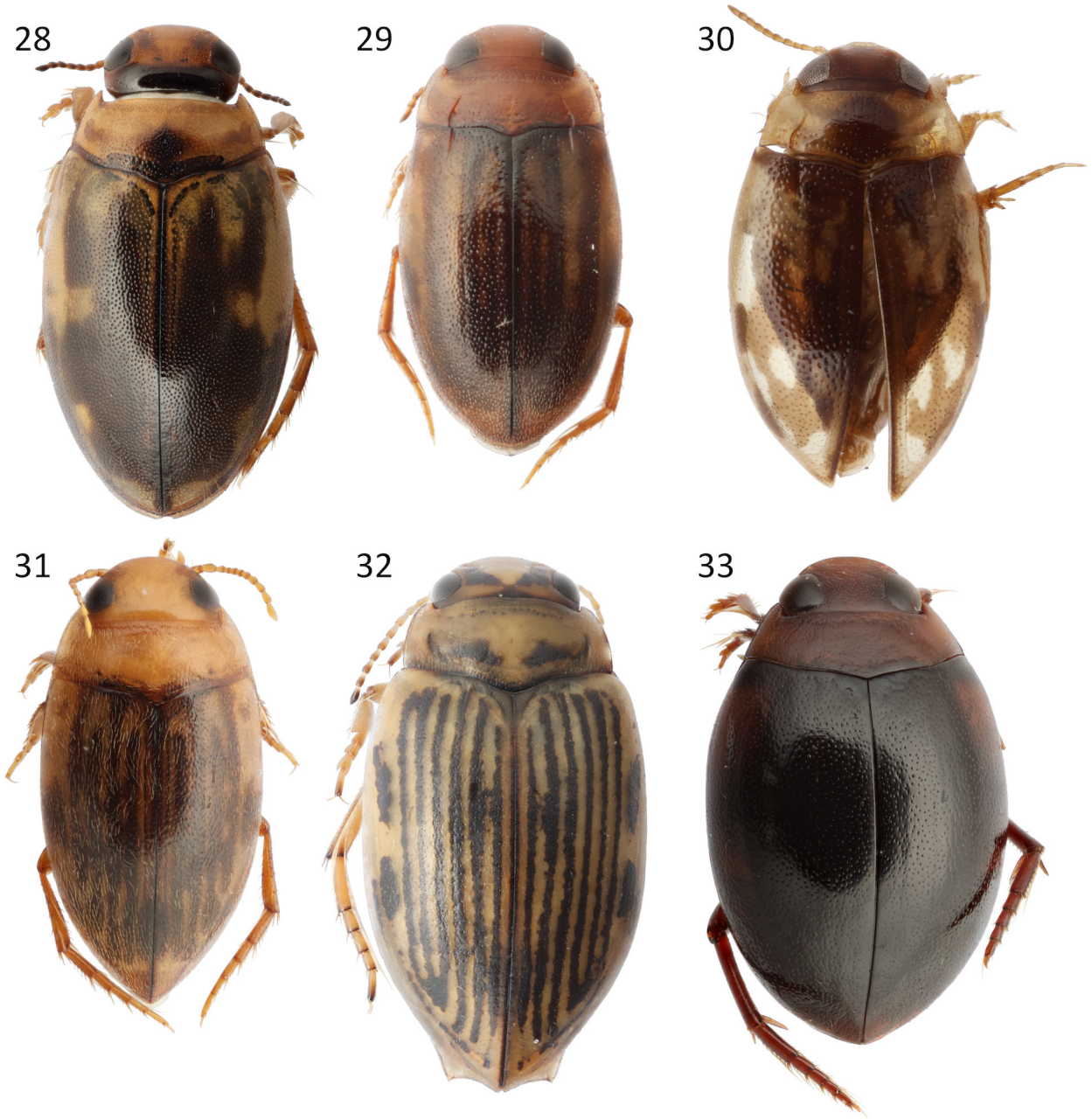
New state records for Illinois (Madison and Peoria cos.), Kentucky (Kenton, Menifee, and Warren cos.), Louisiana (Caddo Parish), Ohio (Hamilton Co.), and Pennsylvania (Monroe Co.); clarified record for Indiana (Clark Co.), as this species was included from Indiana by White et al. (1985) but not Larson et al. (2000). This is a species that occurs through the entire central and northeastern United States and into Canada (Larson et al. 2000; Whiteman and Sites 2003; Harp and Robison 2006; Hubbard 2017).

Neoporus shermani (Fall)

New state record for Texas (Brazos and Lamar cos.); a widespread species in the eastern United States (Wolfe 1984).

Neoporus striatopunctatus (Melsheimer)

New state records from Connecticut (New London Co.) and Texas (Harrison and Sabine cos.); an eastern species for which there is no catalogue of state level records (Larson et al. 2000). Other states that I have seen specimens from or that have published records are: Alabama, Arkansas (Longing and Haggard 2009), Florida, Illinois, Indiana (White et al. 1985), Iowa (Hubbard 2017), Maine (Boobar et al. 1998), Maryland, Massachusetts (Young 1954), Michigan (Larson et al. 2000), Mississippi, New York, North Carolina, Pennsylvania, South Carolina (Ciegler 2003), Vermont (Larson et al. 2000), and Virginia (Steury 2023).



Figures 28–33. Dorsal habitus of Hydroporinae spp. (Dytiscidae), body lengths in parentheses. **28)** *Hygrotus wardii* from Jeff Davis Co., Texas (3.8 mm). **29)** *Neobidessus pullus pullus* from Beaufort Co., North Carolina (1.9 mm). **30)** *Neoclypeodytes moroni* from Cameron Co., Texas (2.2 mm). **31)** *Neoporus vittatipennis* from Cherokee Co., Texas (2.6 mm). **32)** *Oreodytes laevis* from Custer Co., Idaho (4.7 mm). **33)** *Pachydrus princeps* from San Patricio Co., Texas (4.3 mm).

Neoporus vittatipennis (Gemminger and Harold)

New state record for Texas (Brazos, Cherokee [Fig. 31], Grimes, Harrison, Jasper, Walker, and Wood cos.); widespread in the southeastern United States but is seemingly replaced by *N. pratus* (Wolfe) in central Texas (Wolfe 1984).

Oreodytes laevis (Kirby)

New state record for Idaho (Custer Co.; Fig. 32); known from Alaska south to Washington and Wyoming, but there are few records from the western United States (Zimmerman 1985; Larson et al. 2000).

Pachydrus princeps (Blatchley)

New state record for Texas; recorded from San Patricio Co. (Fig. 33) and south along the Gulf Coast in Cameron, McMullen, and Nueces cos.. Although the genus is in need of review and there are currently six recognized species in the northern Neotropics (Nilsson and Hájek 2026), dissected males from Texas matched specimens from southern Florida. This species also occurs in southern Georgia and has been found west of Pensacola (Escambia Co.), Florida, near the Alabama border; it may occur around the entire Gulf Coast.

Uvarus amandus (LeConte)

Common in the Chihuahuan Desert of west Texas (Jeff Davis [Fig. 34] and Presidio cos.); this species was described from southern Arizona, occurs in southern New Mexico and Mexico (Arce-Pérez and Roughley 1999). This and other species of the genus in arid western North America need review (Miller and Bergsten 2016). The genital structure of specimens from the Davis Mountains is illustrated in Fig. 37–38 and compared to other species in the genus.

Uvarus lacustris (Say)

New state record for New Mexico (Chaves and Eddy cos.; Fig. 35, 39); widespread in eastern North America (Larson et al. 2000).

Uvarus texanus (Sharp)

Previously considered a poorly understood species known from few specimens (Larson et al. 2000); it can be locally common in central Texas and occurs north to southern Oklahoma (Zuellig et al. 2006), west to the Davis Mountains, south to the Mexican border, indicating it probably occurs in northern Mexico. Texas specimens examined were from Bandera, Blanco, Brewster, Comal, Denton, Gillespie, Hays, Jeff Davis, Presidio, Travis, Uvalde, and Val Verde cos. (Fig. 36, 40, 41).

Laccophilinae

Agabetes acuductus (Harris)

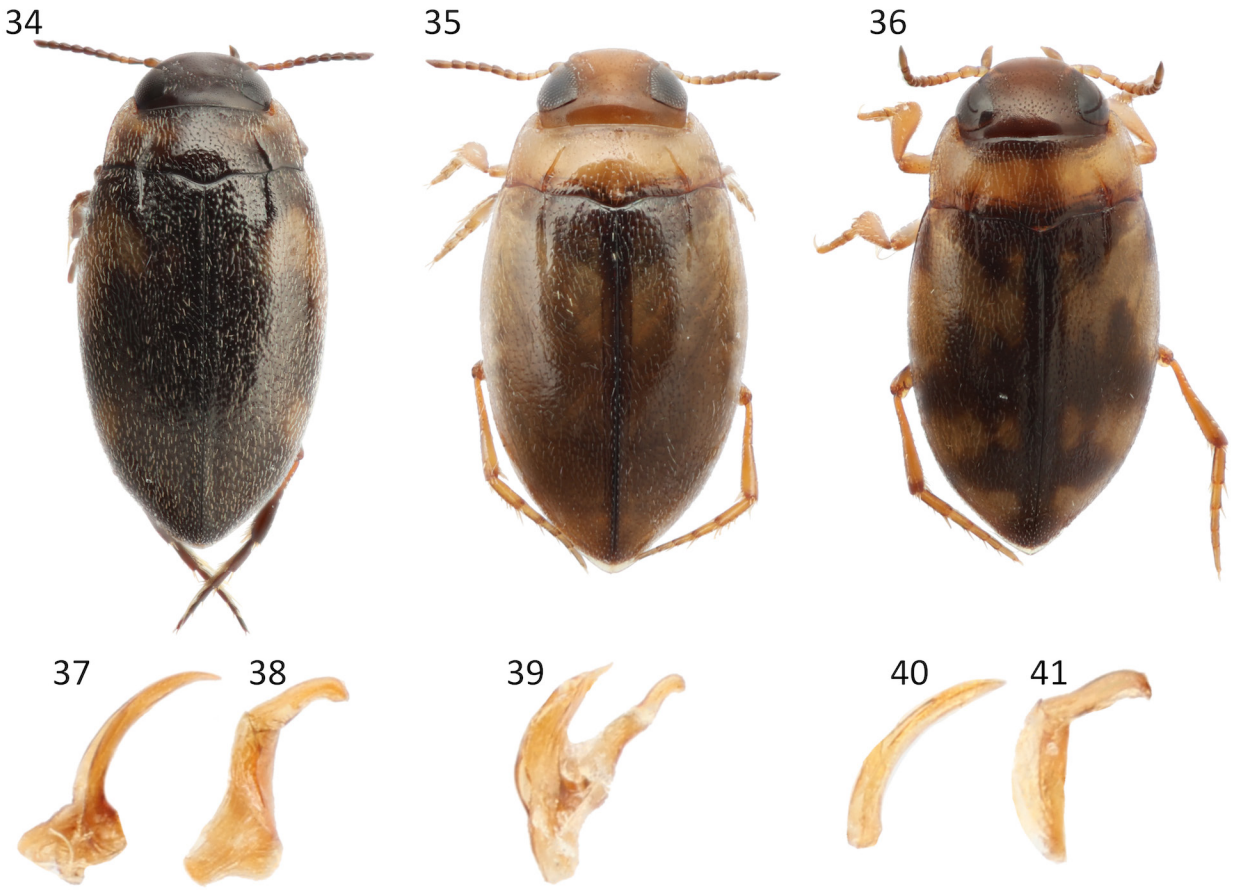
New state records for Connecticut (New Haven Co.), Michigan (Berrien, Kent, and Livingston cos.), New Hampshire (Carroll Co.; Fig. 1), Pennsylvania (Cumberland Co.), and Virginia (Charles City). This species has been reported from Ontario, Quebec, Louisiana, Texas, and all states east of the Mississippi River except apparently Illinois, Kentucky, and West Virginia, but it should be expected in all of those states (Turnbow and Smith 1983; Larson et al. 2000).

Laccophilus fasciatus rufus Melsheimer

First records with precise observation information from Ontario (Essex, Haldimand-Norfolk, and Niagara); previously reported from Ontario based on one specimen by Shaverdo (2005); this is a widespread species east and south of the Rocky Mountains in the United States (Zimmerman 1970).

Laccophilus horni Branden

New state record for New Mexico (Grant, Hidalgo, and Sierra cos.; Fig. 5); occurs in southeastern Arizona, west Texas, and Mexico (Zimmerman 1970).



Figures 34–41. Adult male *Uvarus* spp. of the lacustris group in Texas and New Mexico, body lengths in parentheses. **34)** *U. amandus* dorsal habitus from Jeff Davis Co., Texas (2.15 mm). **35)** *U. lacustris* dorsal habitus from Eddy Co., New Mexico (1.7 mm). **36)** *U. texanus* dorsal habitus from Hays Co., Texas (1.8 mm). **37)** *U. amandus* aedeagus. **38)** *U. amandus* paramere. **39)** *U. lacustris* aedeagus and paramere. **40)** *U. texanus* aedeagus. **41)** *U. texanus* paramere.

Laccophilus pictus insignis Sharp

This is a commonly reported species in central Texas due to its striking coloration. In the Chihuahuan Desert of West Texas, it is largely replaced by *L. pictus coccinelloides* Régimbart. I have, on few occasions, collected *L. pictus insignis* as far west Jeff Davis Co. co-occurring with *L. pictus coccinelloides*. Zimmerman (1970) treated them as subspecies based on limited numbers of intergrades with the nominate subspecies in southern Mexico, but I have not seen clear evidence of intergrades between these two subspecies in Texas. *Laccophilus pictus insignis* is larger and the male aedeagi are different (Zimmerman 1970), so they might one day be treated as separate species again. This subspecies has also been observed in eastern New Mexico (Chaves and Eddy cos.).

Laccophilus salvini Sharp

New state record for New Mexico (Hidalgo Co.); additional records from southeastern Arizona (Cochise and Santa Cruz cos.). This species was previously reported from the United States based on a few specimens from Pima Co., Arizona; it occurs south to Guatemala (Zimmerman 1970).

Laccophilus undatus Aubé

New state record for Missouri (Stoddard Co.); a species that can be common in the northeastern United States but is rarely documented outside of that region (Folkerts and Donavan 1974; Marks and Harp 1989; Pintar and Resetarits 2020; Pintar 2024a).

Matinae

Matus relictus Young

Until now, this species was only reported from Young's (1953b) specimens from Orange Co., Texas and Hempstead Co., Arkansas. In Texas, this species was common at lights in Powderhorn Wildlife Management Area, Calhoun Co. during a May 2023 bioblitz event (Fig. 21; also found in a pond there). I have also seen specimens from Brazos, Galveston, Hardin, and Morris cos., Texas.

Epimetopidae

Epimetopus costatus (LeConte)

Clarified record for Texas: two specimens were found at a UV light near the Devils River in Val Verde Co.; it was previously reported from Texas based on one specimen with no locality data and is otherwise only known from northwestern Arkansas (Perkins 2012).

Epimetopus punctipennis Perkins

In Texas, this species is the most commonly collected member of this rarely collected genus. It is primarily found throughout the central part of the state with records from Blanco, Burnet, Gillespie, Hays/Travis (on the border), Kimble, and McCulloch cos., and also north to Latimer and McCurtain cos., Oklahoma (Perkins 1979, 2012).

Epimetopus robustus Perkins

Additional record for Panama: one male was collected at Rancho Frio Station in Darién Province; it was previously known only from the type series near Gamboa, Río Frijoles (Perkins 2012).

Epimetopus thermarum Schwarz and Barber

Previously known from Texas based on one specimen (from "Cypress Mills"), which was probably in Blanco Co. (approximately 30.381°N, 98.251°W), not near Houston as suggested by Perkins (2012). New records document the species' occurrence in Burnet, Erath, and Kimble cos., with additional records from the Mexican states of Baja California Sur, Chiapas, Guerrero, Jalisco, Oaxaca, and Veracruz.

Gyrinidae

Gyrinus gibber LeConte

New state record for Texas (Brazos Co.) and southwestern-most record; seemingly rarely documented in the southeastern United States (Oygur and Wolfe 1991).

Gyrinus parcus Say

New state record for New Mexico (Eddy Co.); this is a common species in much of Texas and the central United States (Oygur and Wolfe 1991).

Haliplidae

Haliplus confluentus Roberts

New state record from Texas (Calhoun Co.; Fig. 42, 43); reported from a few states in the eastern United States (Florida, Georgia, Louisiana, Maryland, South Carolina, and Virginia), and also to the south in Veracruz (Vondel 2021).

Peltodytes roughleyi Vondel

Vondel (2021) separated this species from *P. callosus* (LeConte) but left in place many of the state-level records for *P. callosus*, which may be incorrect. Collection and review of specimens in the southwestern United States indicates *P. callosus* primarily occurs in the Coast Ranges of California and Rocky Mountains northward, with *P. roughleyi* occurring in the warmer arid Southwest, including north into Colorado (**new state record** from Baca, Fremont, Garfield, Huerfano, Lincoln, Pueblo, and Yuma cos.; Fig. 46); it may also occur in southern Utah and south into Mexico. *Peltodytes callosus* is only known from Arizona from a single record in Yuma (Yuma Co.) collected in 1924 (Vondel 2021).

Peltodytes sexmaculatus Roberts

New state record for California; collected at three sites in Tulare Co. (Fig. 44, 45) in 2025 and one specimen collected and posted to iNaturalist from Yolo Co. in 2026. This is a common species in eastern North America and possibly one of several species introduced to the Central Valley (see noterid species below). Photographs of *Peltodytes* specimens posted to iNaturalist that strongly resemble this species (but are otherwise not verified to species) suggest that it could be much more widespread in the Central Valley than these records indicate. California specimens of this species have perhaps been confused with *P. simplex* (LeConte) and especially *P. muticus* (LeConte) in collections as both of those species were previously reported from the state and have unicolorous hind femora (Vondel 2021).

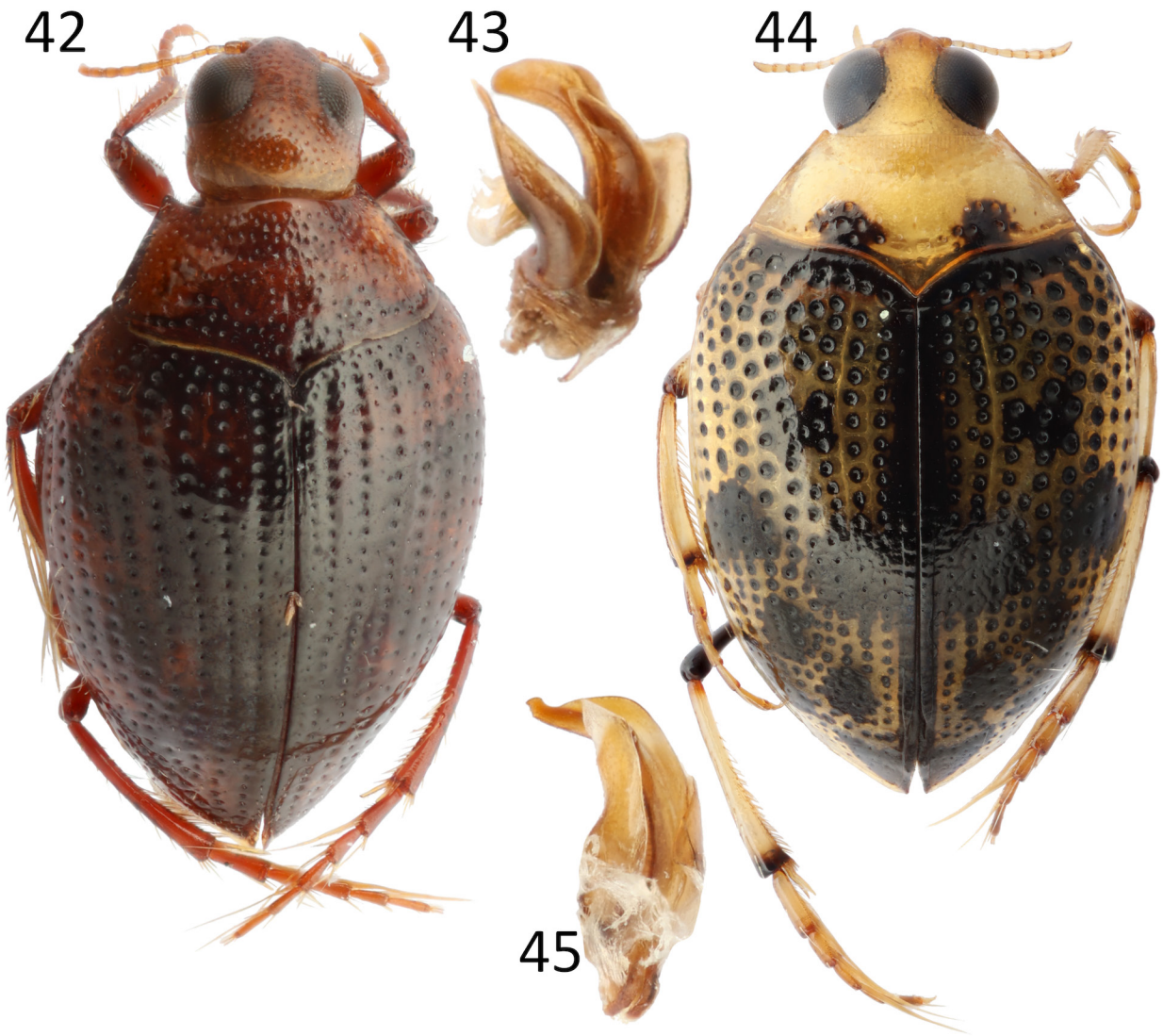
Hydraenidae

Hydraena circulata Perkins

New state records for Nevada (Clark Co.) and Texas (Jeff Davis Co.; Fig. 47); this is a widespread species in the western United States, but in the southwestern states it is typically found in mountains (Perkins 1980). This species was found in the Spring Mountains of southern Nevada, while in Texas only two males were found at two high elevation spring sites in the Davis Mountains.

Hydrophilidae

The last compilation of records of Hydrophilidae was by Hansen (1999). Records here largely build upon Hansen's (1999) records, along with some more recent work and records Hansen missed. Note that Van Tassell's (1966) unpublished dissertation is often used by authors as the primary source of information on the genus *Berosus*, despite that most of this information was never published (but see Van Tassell 1963, 1990). Reliance on Van Tassell (1966) is problematic given this lack of publication and the inclusion of numerous unpublished species names (some based on single specimens) that seem unlikely to ever be valid. Records for *Berosus* below seek to clarify distributional records between Van Tassell (1963), Hansen (1999), and other published work, but there is need for a modern review of the genus in North America.



Figures 42–45. Adult male Haliplidae spp., body lengths in paratheses. **42)** *Haliplus confluentus* dorsal habitus from Calhoun Co., Texas (2.7 mm). **43)** *H. confluentus* genitalia, lateral. **44)** *Peltodytes sexmaculatus* dorsal habitus from Tulare Co., California (3.7 mm). **45)** *P. sexmaculatus* male genitalia, lateral.

Acidocerinae

Helobata larvalis (Horn)

New state/territory records for Georgia (Glynn Co.) and Puerto Rico (Naguabo); recorded along the coast of all states from Virginia to Texas and south to South America (Gíron and Short 2021). Clarkson et al. (2016) misinterpreted specimens from the states of Louisiana and Sonora as being from California (Horn 1873).

Helochares maculicollis Mulsant

New country record for Canada in southern Ontario (Elgin Co.). This species is known to occur across much of the eastern United States (Short and Girón 2018).

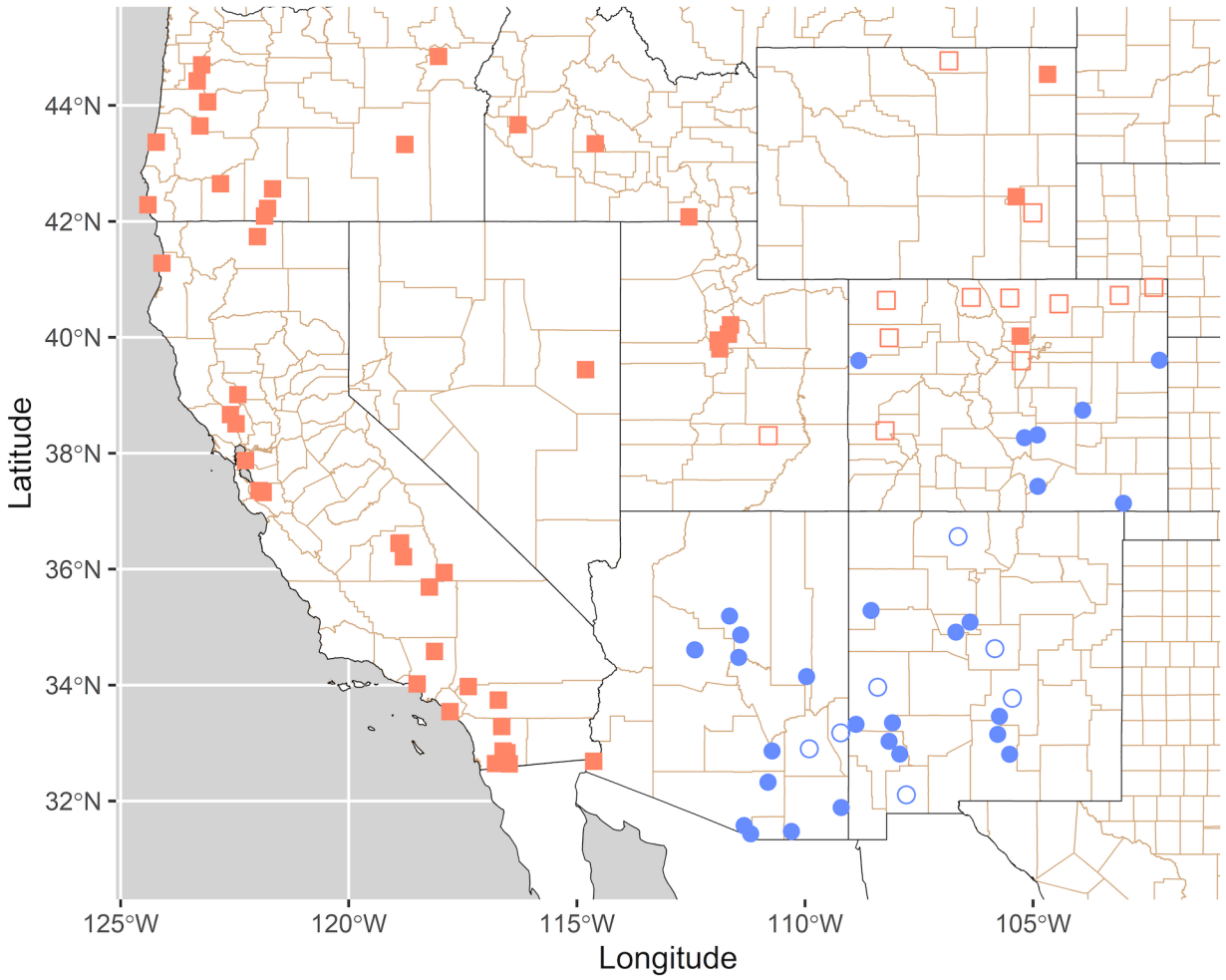


Figure 46. Distribution of *Peltodytes callosus* (red squares) and *Peltodytes roughleyi* (blue circles) in the western United States based on specimens examined and precise records from Vondel (2021). Solid shapes are precise localities; hollow shapes are county-level records.

Chaetarthriinae

Crenitulus suturalis (LeConte)

New state records for New Jersey (Burlington Co.), New Mexico (Grant Co.), and Oklahoma (Latimer Co.). This is a widespread and often common species in the eastern United States but has not been reported as often as other taxa. In eastern states it has been reported from Delaware, Florida, Georgia, Indiana, Kansas, Kentucky, Maryland, Mississippi, Missouri, New York, North Carolina, Pennsylvania, Texas, and Virginia; it has also been recorded from southeastern Arizona and south into the Neotropics (White et al. 1985; Hansen 1999; Ciegler 2003; Komarek 2005; Harp et al. 2008; Beaty 2011).

Enochrinae

Cymbiodyta bifida (LeConte)

Hansen (1999) only listed this species from three provinces and 10 states, but it is a common and widespread species in eastern North America. It is also the most recognizable species of Enochrinae in eastern North America



Figure 47. Dorsal habitus of an adult male *Hydraena circulata* from Jeff Davis Co., Texas (body length = 2.05 mm).

with its long maxillary palps and striate elytra (Fig. 9). It has been recorded in the provinces of Manitoba, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, and Quebec and the states of Texas, Oklahoma, and all 31 states east of ~94°W latitude (Wickham 1911; Williams et al. 1995; Hansen 1999; Vlach et al. 2010).

Enochrus sayi Gundersen

New state/provincial records for Massachusetts (Middlesex Co.) and Quebec (Bécancour). This species is widespread in the eastern United States and has been reported from southern Ontario (Gundersen 1977; Smetana 1988).

Hydrophilinae

Berosus corrini Wooldridge

New state record for Texas (Hardin, Harrison, Houston, and Jasper cos.); occurs east to North Carolina (Wooldridge 1964; Hansen 1999).

Berosus hoplites Sharp

Clarified records from west Texas (Brewster, Jeff Davis [Fig. 48, 49], and Presidio cos.); occurs south into Mexico and possibly into southeastern Arizona and southern New Mexico, but it is very similar to *B. salvini* Sharp. Hansen (1999) did not include records from the United States in his catalogue. This is the largest North American species in the genus, occurs in the Chihuahuan Desert, and is locally common in the Davis Mountains.

Berosus infuscatus LeConte and *B. ingeminatus* d'Orchymont

Berosus infuscatus is a common eastern species that has long been suggested as occurring west to California (Leech and Chandler 1956; Van Tassell 1963; Gimmel et al. 2023), but few records were published and Hansen (1999) did not recognize those state records. Specimens have likely been confused with *B. ingeminatus* given that females are inseparable and general male genitalia structure is very similar. Here, I provide a record from eastern New Mexico (Chaves Co.) of *B. infuscatus*, but the limited number of California specimens I have seen are *B. ingeminatus*. Arizona specimens also seem to be *B. ingeminatus,* but their genital structure is not as distinct from eastern *B. infuscatus* as California specimens, with somewhat of an east–west gradient in genital structure between the two species that should be reviewed further (Fig. 50–57).

Berosus metalliceps Sharp

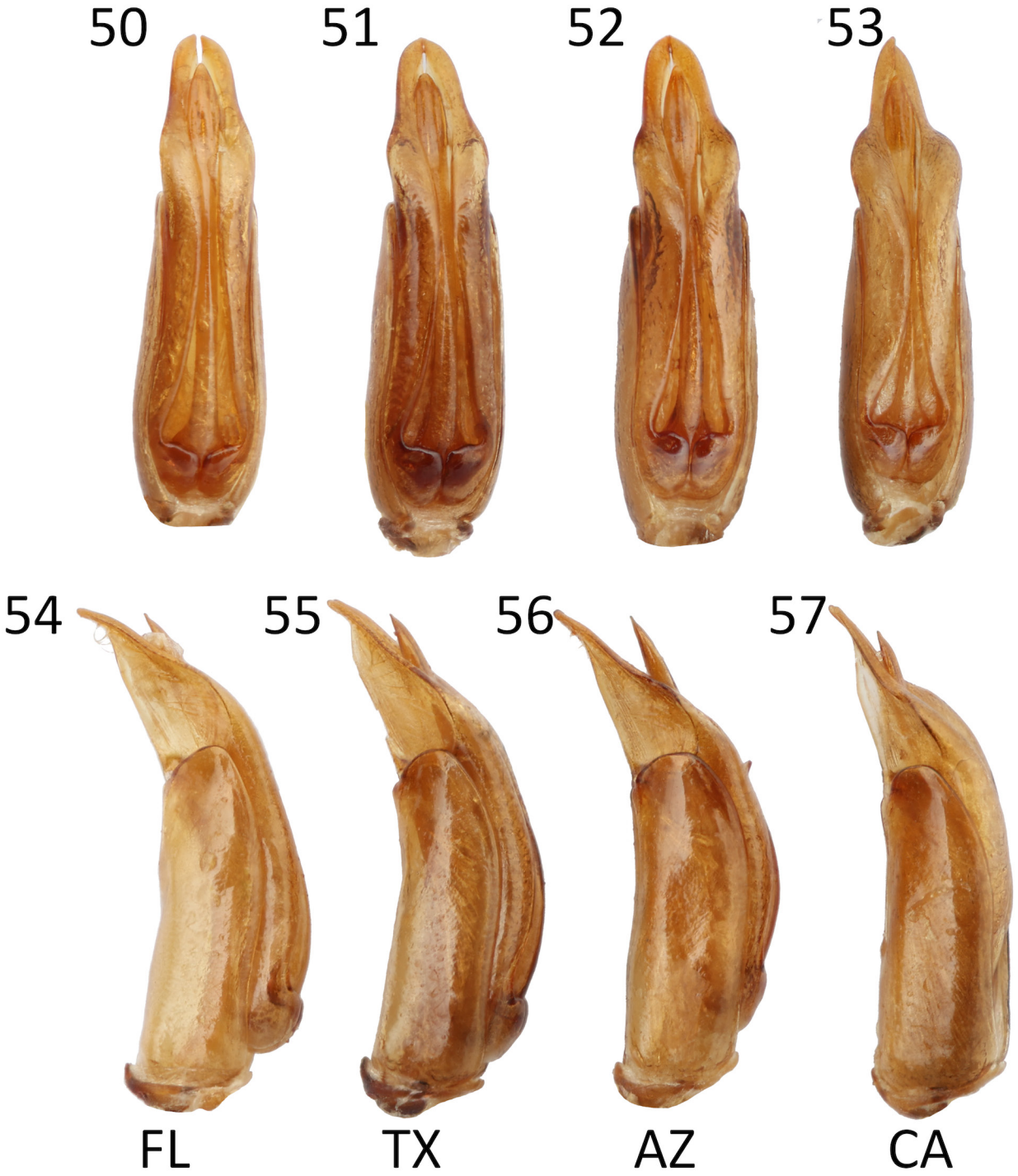
New state/country records for New Mexico (Hidalgo Co.) and Saint-Barthélemy; clarified record for Texas (Fig. 8). In coastal eastern North America, this species is known from Aransas Co., Texas (around Corpus Christi Bay) south into Mexico and east to the Lesser Antilles (previously recorded from Cuba and the Bahamas); possibly in southern Florida. Older museum records (pre-1960) include specimens from the salt flats in Hudspeth Co., as well as Bastrop and Brazos cos., Texas (one listed as "light trap" but the two eastern counties otherwise lack collection details and seem dubious). It is a brackish water species (Deler-Hernandez et al. 2013), often observed at lights, and has been reported as occurring in southern California, but no details on specimens from California have ever been given in the literature (Young 1953a; Leech and Chandler 1956). I have seen two specimens from California, one each from Los Angeles and Orange cos., and one from Baja California. These distribution records indicate it may occur more widely in saline habitats in the interior of the continent and along the coasts of Mesoamerica and the Caribbean than existing records suggest.

Berosus miles LeConte

This species is quite recognizable due to its larger size, spinose elytral apices, and large dark blotches on the elytra. Hansen (1999) only included Arizona, Texas, and Mexico in his catalogue, but this species occurs as far north as



Figures 48–49. *Berosus hoplites* from Jeff Davis Co., Texas. **48)** Dorsal habitus (body length = 8.1 mm). **49)** Genitalia, lateral.



Figures 50–57. Variation in male genital structure in *Berosus infuscatus* and *Berosus ingeminatus* from four locations across the southern United States. **50–53)** Dorsal. **54–57)** Lateral. **50, 54)** *B. infuscatus* from Miami-Dade Co., Florida. **51, 55)** *B. infuscatus* from San Patricio Co., Texas. **52, 56)** *B.* cf. *ingeminatus* from Graham Co., Arizona. **53, 57)** *B. ingeminatus* from San Bernardino Co., California.

southern Nebraska and west to the northwestern corner of Arizona, with clarified state records including Colorado, Kansas, New Mexico, Oklahoma, and Utah.

Berosus pantherinus LeConte

Hansen (1999) only listed nine states in his catalogue, but this species occurs across much of the eastern United States east of 100°W longitude and south of approximately 42°N latitude. States with records: Alabama, Arkansas, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Nebraska, New Jersey, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin (Hansen 1999; Ciegler 2003; Short 2004; Williams et al. 2007; Epler 2010; Hubbard 2017).

Berosus punctatissimus LeConte

New country record for Canada in Greater Vancouver, British Columbia; previously recorded along the Pacific coast from Baja California to Washington state (Leech and Chandler 1956; Smetana 1988; Hansen 1999).

Berosus rugulosus Horn

Only reported as occurring in Arizona and California by Hansen (1999). This species has been collected in west Texas to as far east as the Devils River (Brewster, Jeff Davis, Presidio, and Val Verde cos.).

Derallus altus (LeConte)

New state records for Kentucky (Pulaski Co.) and Oklahoma (Latimer and Mayes cos.; Fig. 7). In the United States, it is primarily known from the southeastern coastal plain but is rarely documented inland (Short and Torres 2006).

Hydrophilus ensifer Brullé

New country records for Belize and Jamaica, and **new state records** for San Luis Potosí and Sinaloa (Hansen 1999; Arce-Pérez and Morón 2013); third record for Florida (Lee Co.) (Pintar and Keller 2020).

Hydrophilus insularis Laporte de Castelnau

New country records for El Salvador and Honduras; **new state record** for Baja California (Hansen 1999; Arce-Pérez and Morón 2013). More widely distributed in Texas than reported by Short and McIntosh (2014): as far north as Dallas, east to Houston, and west to the Big Bend region.

Hydrophilus ovatus Gemminger and Harold

New state records for Arkansas (Conway, Cross, Franklin, Garland, and Yell cos.), Maine (Franklin, Knox, Penobscot, Sagadahoc, Washington, and York cos.), Nebraska (Douglas and Lancaster cos.), Vermont (Addison, Chittenden, Colchester, Franklin, Grand Isle, Rutland, and Washington cos.), and West Virginia (Hampshire Co.); clarified records for Connecticut (all counties/council of governments), Iowa (Linn and Warren cos.), and southern Quebec as these locations were excluded by Short and McIntosh (2014) but included by Hansen (1999) and Wickham (1911). This species occurs in Ontario and every state east of 100°W latitude except it has not been reported from Minnesota, North Dakota, or South Dakota, it also occurs south into Mexico (Short and McIntosh 2014; Arce-Pérez et al. 2021).

Hydrophilus triangularis Say

New state/provincial records for Manitoba, Maine (Lincoln, Penobscot, and Washington cos.), Minnesota (Carver, Chisago, Goodhue, Hennepin, Lake, Martin, Olmsted, Ramsey, Rice, and Scott cos.), and Wyoming



Figures 58–59. Dorsal habitus of adult Noteridae spp. from Tulare Co., California, body lengths in parentheses. **58)** *Hydrocanthus iricolor* (4.3 mm). **59)** *Suphisellus bicolor* (2.4 mm).

(Carbon, Converse, Fremont, and Sheridan cos.). Known to occur in every of the lower 48 states except New Hampshire and Vermont, as well as the southern portion of all provinces from British Columbia to Quebec (Short and McIntosh 2014) and south into Mexico (Arce-Pérez and Morón 2013).

Paracymus lodingi (Fall)

New state record for Texas (Calhoun and Cameron cos.); previously only reported from coastal Mississippi to Florida and the "Gulf coast of Mexico" (Wooldridge 1966, 1969; Lago and Testa 1989), but is likely more widespread in saline waters around the Gulf Coast.

Sperchopsis tessellata (Ziegler)

New state records for Kansas (Cherokee Co.) and Louisiana (Natchitoches Parish); a widely distributed but not often encountered lotic species in the eastern United States and southeastern Canada (Spangler 1961; Smetana 1988; Jasper and Vogtsberger 1996).

Sphaeridiinae

Phaenonotum exstriatum (Say)

New state records for Massachusetts (Middlesex Co.) and New Mexico (Eddy Co.). Fagerlund (2000) included this species on his list from New Mexico but no details were provided. It occurs across much of the eastern United States to South America (Smetana 1978; Deler-Hernández et al. 2018).

Tectosternum naviculare (Zimmermann)

New state records for Arkansas (Logan Co.), Kentucky (McCreary Co.), Nebraska (Richardson Co.), Oklahoma (Latimer Co.), and Texas (Sabine Co.); a species that occurs across eastern North America (Smetana 1978).

Noteridae

Two species of Noteridae native to eastern North America were previously reported from California with limited or no distributional data (Leech 1970). These records serve to confirm the presence of these species in the state as of 2025; both should be considered introduced to the Central Valley.

Hydrocanthus iricolor Say

Reported as possibly occurring in California by Leech and Chandler (1956) but no other details of specimens in the state were published (Young 1985). This species was collected from one pond in Tulare Co. in 2025 (Fig. 58).

Suphisellus bicolor (Say)

Reported as occurring in Tulare Co., California by Leech (1970). Specimens (Fig. 59) were collected in 2025 in two ponds in Tulare Co. north of Leech's (1970) records (approximately 35.992°N, 118.983°W).

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