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## Distributional, biological, and nomenclatural notes on Buprestidae (Coleoptera) occurring in the U.S. and Canada

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*Abstract.* Distributional, biological and nomenclatural notes are presented for 113 species of Buprestidae from the U.S. and Canada in the following 29 genera and subgenera: *Acmaeodera* (s. str.) Eschscholtz 1829, *Acmaeoderopsis* Barr 1974, *Actenodes* Dejean 1833, *Agaeocera* Saunders 1871, *Agrilaxia* Kerremans 1903, *Agrilus* (s. str.) Curtis 1825, *Anthaxia* (*Haplanthaxia*) Reitter 1911, *Anthaxia* (*Melanthaxia*) Richter 1949, *Aphanisticus* Latreille 1829, *Brachys* Dejean 1833, *Buprestis* (s. str.) Linnaeus 1758, *Buprestis* (*Cypriacis*) Casey 1909, *Buprestis* (*Knuliobuprestis*) Kurosawa 1988, *Buprestis* (*Stereosa*) Casey 1909, *Chalcophora* Dejean 1833, *Chrysobothris* (s. str.) Eschscholtz 1829, *Dicerca* (s. str.) Eschscholtz 1829, *Hesperorhipis* Fall 1920, *Mastogenius* Solier 1849, *Pachyschelus* Solier 1833, *Paratyndaris* (s. str.) Fisher 1919, *Paratyndaris* (*Knuliella*) Cobos 1980, *Phaenops* Dejean 1833, *Polycesta* (s. str.) Dejean 1833, *Polycesta* (*Arizonica*) Cobos 1981, *Spectralia* Casey 1909, *Taphrocerus* (s. str.) Solier 1833 and *Xenorhipis* LeConte 1866. Records include one new record for Canada, 65 new U.S. state records, 52 new larval hosts, 34 new adult hosts and 31 new flower associations. Comments on and corrections to previous literature records for other species are also made, and *Agrilus neoprosopidus* Knull 1938 is confirmed as a correct original spelling.

*Key Words.* Buprestidae, Canada, Coleoptera, distribution, host plants, new records, nomenclature, U.S.A.

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The buprestid fauna of the U.S. and Canada is comparatively well-studied; however, the frequency and regularity with which new “notes” papers continue to be published show that detailed understanding of distribution and host plant utilization remains incomplete for many species. Recent collecting by the authors and examination of specimens in other collections has brought to light additional undocumented distributional and biological data for 113 species of Buprestidae occurring in the U.S. and Canada. Altogether, one new country record for Canada, 65 new U.S. state records, 52 new larval hosts, 34 new adult hosts, 31 new flower associations and clarifying comments on several previous published records are presented. Additionally, *Agrilus neoprosopidus* Knull 1938 is confirmed as a correct original spelling.

Genera and species are listed alphabetically, with the terms “larval host,” “adult host” and “flower host” used *sensu* MacRae (2006). For consistency and to reduce ambiguity, records (U.S. unless stated otherwise) are presented in standardized format [state/province (ALL CAPS), county, place name, geographical coordinates, elevation, date of collection (day.month.year), number of specimens, host plant or other ecological information, collector and collection] with new distributions and hosts in **bold** text and the following abbreviations: CA = Conservation Area; coll. =

collected; dia = diameter; elev = elevation; em. = emerged; ex = out of; Hwy = Highway; Jct = junction; Mts = Mountains; NA = Natural/Nature Area; NP = National Park; NWR = National Wildlife Refuge; PA = Primitive Area; Rd = Road; SP = State Park; vic. = vicinity. Plant nomenclature follows Tropicos (2013), with family indicated at first mention of a genus and author at first mention of a species. Specimens remain with the collector (our names abbreviated TCM and JPB, respectively) unless another collection [brackets] (Evenhuis & Samuelson 2007, or as listed in the acknowledgments) is indicated.

*Acmaeodera* (s. str.) *alicia* Fall 1899. ARIZONA, Maricopa Co., Morristown, 12S 346567 3751621N UTM, elev 1993', 1.VIII–27.IX.2008 (34) & 4.VII–5.IX.2009 (12), dead in yellow rain gauge; Hassayampa River Preserve, 12S 0343435 3755796N, elev 1960', 9.VIII–27.IX.2008 (26), fermenting bait in yellow bucket, all P. Kaufman. The large numbers collected suggest strong attraction by this species to yellow-colored traps.

*Acmaeodera* (s. str.) *alpina* Barr 1972. CALIFORNIA, Inyo Co., Sierra Nevada Mts, N Fork Big Pine Creek, 26–27.VII.1988 (2), on flower *Rosa* sp. (Rosaceae), G. H. Nelson [& TCMC].

*Acmaeodera* (s. str.) *auritincta* Fall 1922. TEXAS, Brewster Co., Big Bend NP, Persimmon Gap, 22 & 26.VI.2003 (55), TCM, most attracted to flowers of *Thelesperma megapotamicum* (Spreng.) Kuntze, but small numbers also were collected on *Bahia absinthifolia* Benth., *Porophyllum scoparium* A. Gray, *Wedelia hispida* Knuth, and *Xanthisma spinulosum* var. *chihuahuanum* (B. L. Turner & R. L. Hartm.) D. R. Morgan & R. L. Hartm. (all Asteraceae).

*Acmaeodera* (s. str.) *bivulnera* Horn 1894. CALIFORNIA, Riverside Co., 3.8 mi S Palm Desert, Hwy 74, elev 1000', 28.VI.1993 (1), on *Psorothamnus spinosus* (A. Gray) Barneby (Fabaceae), TCM. Adults sit on dead twigs of a variety of plants, but *Krameria grayi* Rose & Painter (Krameriaceae) is the only known larval host (Westcott et al. 1979).

*Acmaeodera* (s. str.) *carlota* Fall 1932. ARIZONA, Coconino Co., 10 mi SE Page, Hwy 98, 29.V.2009 (1), J. Huether & W. Warner [TCMC]. This locality is near the Utah border and lies some 250–300 miles north-northwest of the other two known localities for this species near Sunflower, Arizona and Wikieup, Arizona (Westcott et al. 1979).

*Acmaeodera* (s. str.) *gibbula* LeConte 1858. TEXAS, Brewster Co., Big Bend NP, 2.1 mi S Hwy 12, Glenn Springs Rd, em. 1.VII–13.VIII.2005 (1) ex dead stem *Dalea formosa* Torr. (Fabaceae) coll. 12.IV.2004, TCM; Persimmon Gap, 22.VI.2003 (2), on flower *Xanthisma spinulosum* var. *chihuahuanum*, TCM.

*Acmaeodera* (s. str.) *gillesiensis* Knull 1941. Knull (1941) stated that the last visible abdominal ventrite lacks a subapical carina; however, a small carina is visible on several specimens among more than two dozen collected in the Davis Mts (MacRae 2006).

*Acmaeodera* (s. str.) *idahoensis* Barr 1969. OREGON, Crook Co., Maury Mts, Drake Butte, 25.VII.1976, on flowers *Crepis acuminata* Nutt. & *Hieracium scouleri* Hook. (both Asteraceae), R. L. Westcott [WFBM].

*Acmaeodera* (s. str.) *macra* Horn 1878. OKLAHOMA, Major Co., Gloss Mountain SP, W side below main mesa, 36°21.976' N, 98°34.851' W, elev 1403', 1.X.2011 (5); Woodward Co., Alabaster Caverns SP, Jct Little Bear/Freedom Trail, 36°41.917' N, 99°08.758' W, elev 1661', 18.IX.2012 (11), all on flowers *Heterotheca*

*stenophylla* (A. Gray) Shinnars (Asteraceae), TCM. This fall-active species has been recorded from Mexico north to central Oklahoma (Westcott 2001), thus, the above records extend the known distribution northward almost to Kansas. Nelson et al. (2008) also list Arizona in the distribution of this species; however, we are not aware of any supporting references documenting its occurrence there.

*Acmaeodera* (s. str.) *neoneglecta* Fisher 1949. Fisher (1949) related this species to *A. neglecta* Fall 1899, but the shiny elytral intervals separated by shallow, narrowly elongate stria punctures, elytral markings consisting of small, scattered spots, and male tarsal claw with truncate unguis suggest it is most closely related to *A. tubulus* (Fabricius 1801). Most individuals of *A. neoneglecta* can be separated from the latter species by their more narrowly cylindrical form, the mediosutural stria punctures of the elytra distinctly narrower than the separating intervals, and the convex to subflattened frons with the median impression indistinct or lacking. The species was not known outside of the Lower Rio Grande Valley of Texas until MacRae (2006) reported it from the Davis Mts in west Texas. The following records (all J. & M. Huether [& TCMC] unless otherwise indicated) confirm a wide distribution across south and west Texas where it largely replaces *A. tubulus* to the northeast: TEXAS, Atascosa Co., Jct Rts 281A/791, 10.IV.2009 (10); Brewster Co., 25.5 mi S Alpine, 14.IV.2004 (2), on flowers *Machaeranthera tanacetifolia* (Kunth) Nees (both Asteraceae), TCM; Brooks Co., vic. Rachal, Hwy 281, 14.IV.2009 (4); Hwy 281 rest area, 10.V.2010 (2), R. Turnbow; Dimmit Co., Hwy 190 at Neuces River, 14.IV.2009 (5); Kleberg Co., Hwy 77 at Los Olmos Creek, 10.V.2010 (1), R. Turnbow; Live Oak Co., 15 mi E of Tilden, 14.V.2010 (1), R. Turnbow; Maverick Co., Hwy 277, 3 mi SE Hwy 1591, 14.IV.2009 (4); Val Verde Co., Seminole Canyon State Historic Park, 16.IV.2009 (5); Zapata Co., Falcon SP, 13.IV.2009 (3); Zavala Co., Hwy 65 at Neuces River, 14.IV.2009 (2). Additional adult and flower hosts are: TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley SP (BRGVSP), Rio Grande Hiking Trail, em. 1–17.IV.2004 (1) ex dead branch *Celtis ehrenbergia* (Klotzsch) Liebm. (Cannabaceae) coll. 17.X.2001; BRGVSP, Singing Chaparral Trail, 8.IV.2004 (4), beaten ex dead branches *Acacia greggii* var. *wrightii* (Benth.) Isely (Fabaceae) & *Zanthoxylum fagara* (L.) Sarg. (Rutaceae); Santa Ana NWR, vic. Cattail Lakes, 7.IV.2004 (4), beaten ex dead branch *Celtis laevigata* Willd.; Jeff Davis Co., Davis Mts SP, Limpia Canyon PA, 14.IV.2004 (2), on flowers *Erigeron* sp. (Asteraceae), all TCM. Few Buprestidae have been recorded as attracted to lights (MacRae & Nelson 2003), with the following being the first to our knowledge for the genus *Acmaeodera*: TEXAS, Hidalgo Co., Santa Ana NWR, 27.065981° N, 98.138471° W, 5–26.IV.2009 (4), UV lite trap in mature upland forest, Heffern & Raber [DJHC].

*Acmaeodera* (s. str.) *obtusa* Horn 1878. TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley SP, Singing Chaparral Trail, 8.IV.2004 (1), beaten ex dead branch *Acacia greggii* var. *wrightii*, TCM. This species has previously been recorded only on flowers and “recently bulldozed *Prosopis* sp.” (Fabaceae) (MacRae 2006).

*Acmaeodera* (s. str.) *paradisjuncta* Knull 1940. TEXAS, Brewster Co., Big Bend NP, Persimmon Gap, 22 & 26.VI.2003 (12), on flowers *Bahia absinthifolia*, *Porophyllum scoparium*, *Thelesperma megapotamicum*, *Thymophylla pentachaeta* (D.C.) Small (Asteraceae) & *Xanthisma spinulosum* var. *chihuahuanum*; Big Bend NP, lower Pine Canyon, wash below Nugent Mountain, 23.VI.2003 (1), on flowers *Hibiscus coulteri* Harvey ex A. Gray (Malvaceae) & *T. megapotamicum*, all TCM.

*Acmaeodera* (s. str.) *princeps* Kerremans 1908. MacRae (2006) recorded an adult female ovipositing on *Diospyros texana* Scheele (Ebenaceae), and the following confirms this plant as a larval host: TEXAS, Bexar Co., San Antonio, nr. Sea World, Jct Hwy 151 & Westover Hills Rd, em. 1–30.XI.2003 (1) ex *Diospyros texana* coll. 25.X.2001, TCM. Additional flower associations are: TEXAS, Brewster Co., Big Bend NP, Persimmon Gap, 22 & 26.VI.2003 (25), on flowers *Bahia absinthifolia*, *Porophyllum scoparium*, *Thelesperma megapotamicum*, *Xanthisma spinulosum* var. *chihuahuanum*; Big Bend NP, lower Pine Canyon, wash below Nugent Mountain, 23.VI.2003 (19), on flowers *T. megapotamicum*; Val Verde Co., 11.6 mi W Comstock, Hwy 90 at Pecos River, 26.VI.2003 (3), on flowers *Wedelia hispida* & *T. megapotamicum*; 26.2 mi E Dryden, Hwy 90, 26.VI.2003 (1), on flower *W. hispida*, all TCM.

*Acmaeodera* (s. str.) *pulchella* (Herbst 1801). TENNESSEE: Warren Co., McMinnville, Tennessee State University Otis L. Floyd Nursery Research Center, 35°42.47' N, 85°44.67' W, em. summer 2003 (1) ex *Acer* sp. (Sapindaceae), N. N. Youssef [TSRS].

*Acmaeodera* (s. str.) *robigo* Knull 1954. The only published records for this species are from the type locality (Lake Corpus Christi, south Texas) and near White River Lake, north Texas (Nelson et al.1996): OKLAHOMA, Texas Co., 5 mi N Goodwell, elev 3290', on flowers *Melampodium leucanthum* Torr. & A. Gray (Asteraceae), 21–29.V.2011 (5), K. Schaefer [RLWE]; TEXAS, Val Verde Co., 7 mi S Juno, 9.V.1971 (1), on flowers *Rudbeckia columnaris* Pursh (Asteraceae), D. E. Foster [WFBM]; Comstock, 3.III.1986 (1), on flowers *Opuntia* sp. (Cactaceae), W. F. Barr [WFBM]; Seminole Canyon State Historic Park, 16.IV.2009 (3), J. & M. Huether [& TCMC]. The Oklahoma locality represents a northwestern range extension of 225 mi, while the west Texas locality lies 272 mi south-southwest of the north Texas locality and 240 mi northwest of the type locality. Two of the Seminole Canyon specimens (♀♀, 6.8 × 2.4 mm and 5.9 × 1.9 mm) agree well with Knull's original description, varying only in the width of the basal and sutural black area of the elytra, but the third (♂, 6.5 × 2.2 mm) has the elytra more coarsely punctate with the red-brown lateral area more distinctly vittate, leaving the lateral areas of the elytra black.

*Acmaeodera* (s. str.) *tubulus* (Fabricius 1801). GEORGIA, Emanuel Co., Jct I-16 & US 1, Gar Rd, 30.V.2010 (8), on flowers *Clinopodium coccineum* (Nutt. ex Hook.) Kuntze (Lamiaceae), JPB; MISSISSIPPI, Newton Co., Jct I-20 & Hwy 80, 29.IV.1987 (2), R. Morris; Oktibbeha Co., Osborn Prairie, 28.IV.2007 (1), R. Turnbow; Scott Co., 1.5 mi W Forest, Hwy 80, 10.VI.1989 (1), R. Turnbow [all UGCA]. This species is largely replaced in southern and western Texas by its close relative *A. neoneglecta* (see above), with the following record perhaps representing the southwesternmost extent of its distribution: TEXAS, Uvalde Co., Hwy 1050, Sabinal River at Utopia, 14.V.2010 (1), J. Huether & R. Turnbow [TCMC].

*Acmaeodera* (s. str.) *uvaldensis* Knull 1936. TEXAS, Starr Co., Falcon Heights, Jct FM2098 & Park Rd 49, 9.IV.2004 (1), beaten ex *Acacia rigidula* Benth., TCM. The only other recorded adult host is *Prosopis glandulosa* Torr. (Vogt 1949).

*Acmaeodera* (s. str.) *wenzeli* Van Dyke 1919. TEXAS: Jeff Davis Co., Davis Mts SP, Limpia Canyon PA, 19.VI.2003 (1), beaten ex *Acacia constricta* Benth., TCM. This is the first record of the species from the Davis Mts (previously recorded in the U.S. only in the Chisos Mts).

*Acmaeoderopsis chisosensis* (Knull 1952). TEXAS: Jeff Davis Co., Davis Mts SP, Limpia Canyon PA, 19.VI.2003 (2), beaten ex dead branches *Acacia constricta*,

TCM. This is the first record of the species from the Davis Mts (previously recorded in the U.S. from the Chisos Mts and near El Paso, Texas).

*Acmaeoderopsis hulli* (Knull 1928). TEXAS, Zapata Co., Falcon Lake SP, 9.IV.2004 (1), beaten ex dead *Parkinsonia texana* (A. Gray) S. Watson (Fabaceae), TCM.

*Acmaeoderopsis junki junki* (Théry 1929). ARIZONA, Maricopa Co., Morristown, 12S 346567 3751621N UTM, elev 1993', em. 4.VII–25.IX.2008 (74) ex *Olneya tesota* A. Gray (Fabaceae) cut 16.II.2007 & coll. 1.III.2008, P. Kaufman [& TCMC]; Hassayampa River Preserve, 12S 0343365/3755935 UTM, elev 1969', em. 19–27.VI.2009 (1) ex *Ziziphus obtusifolia* (Hook. ex Torr. & A. Gray) A. Gray (Rhamnaceae) cut 2.V.2008 & coll. 28.II.2009, P. Kaufman; TEXAS, Brewster Co., Big Bend NP, vic. Castolon, 24.VI.2003 (1), on flowers *Sphaeralcea angustifolia* (Cav.) G. Don (Malvaceae), TCM.

*Actenodes acornis* (Say 1833). FLORIDA, Highland Co., Highlands Hammock SP, Young Hammock Trail, 27°28'31" W, 81°32'45" W, em. 1.VI–14.VIII.2006 (4) ex decaying standing trunk (12–14" dia) *Quercus laurifolia* Michx. (Fagaceae), TCM. TENNESSEE, Warren Co., Viola, em. V.2005 (1) ex *Cornus florida* L. (Cornaceae), JPB.

*Actenodes auronotatus auronotatus* (Gory & Laporte 1837). FLORIDA, Monroe Co., Long Key, Long Key SP, Golden Orb Trail, 24°48'51" N, 80°49'19" W, em. 17.VI–14.VIII.2006 (3) ex dead branch (3–4" dia) *Avicennia germinans* (L.) L. (Acanthaceae) coll. 28.III.2006, TCM.

*Actenodes davidi* Nelson 1979. IOWA, Pottawattamie Co., Hitchcock NA, 22.VI.2012 (1), on trail by wasp nest, D. Veal.

*Actenodes simi* Fisher 1940. GEORGIA, Chattooga Co., 6.5 mi S of Villanow, USFS Rd 226, 10.VI–1.VII.2006 (2), J. W. Basham & N. N. Youssef [& JPBC]; same locality, 15.VII–7.VIII.2006 (1), purple sticky trap, JPB; NORTH CAROLINA: Surry Co., Mt. Airy, Meadowview Middle School, 36°28'47" N, 80°39'03" W, 4.VI–26.VI.2012 (10), *Cerceris fumipennis* (Say 1837) prey, C. A. Nalepa [EDNC].

*Agaeocera gentilis gentilis* (Horn 1885). TEXAS, Brewster Co., Big Bend NP, Castolon, Cottonwood Cpdg, 22.VI.1994 (9) & 24.VI.2003 (4), on flowers *Sphaeralcea angustifolia*, TCM. This plant genus is a known larval host (Nelson et al. 1981).

*Agrilaxia flavimana* (Gory 1841). TEXAS, Brewster Co., Big Bend NP, Chisos Mts, Lost Mine Trail, 24.VI.2003 (1), beaten ex dead branch *Quercus grisea* Liebm., TCM; IOWA, Pottawattamie Co., Hitchcock NA, 5.VII.2008 (3), on *Sambucus canadensis* L. (Adoxaceae), D. Veal. This is among the few species recorded breeding both in angiosperms (*Quercus* spp.) and gymnosperms (*Pinus* spp., Pinaceae) (MacRae 2006).

*Agrilus* (s. str.) *abditus* Horn 1891. ARIZONA, Cochise Co., Cave Creek Canyon, Chiricahua Mts, Herb Martyr Dam, 5800', 31°52' N, 109°14' W, 31.V.1995 (2), on foliage *Quercus hypoleucoides* A. Camus, H. A. Hespeneheide [TCMC].

*Agrilus* (s. str.) *arcuatus* (Say 1825). TENNESSEE, Coffee Co., Hillsboro, em. 29.V.2009 (1) ex *Quercus falcata* Michx., JPB.

*Agrilus* (s. str.) *audax* Horn 1891. Described from Texas, Chamberlin (1926) recorded this species from Arizona and Illinois, but Fisher (1928) considered the species to be primarily southwestern and regarded Chamberlin's record from Illinois as probably erroneous. Since then the species has been recorded from Missouri (Knull 1934) and Oklahoma (Nelson & MacRae 1990), and the following records

suggest a fairly broad distribution for the species throughout the central U.S.: **OHIO**, Greene Co., 25.V.1949 (1) & 15.VI.1953 (1), D. J. & J. N. Knull [FMNH]; **MICHIGAN**, Clinton Co., 2.4 mi SW Fowler, 42.978514° N, 84.775436° W, 8–14.VI.2012 (1), green lindgren trap, M. Rietz [TSRS]; St. Johns, 43°02'20" N, 84°34'19" W, 28.VI–7.VII.2011 (1), green lindgren trap, Michael Rietz [TSRS]; **TENNESSEE**, Union Co., IV.2012 (1), purple prism trap, T. Stellar [JPBC]; **TEXAS**, Bosque Co., 2 mi W Iredell, 21–22.IV.1987 (1), on *Forestiera pubescens* Nutt. (Oleaceae), R. Anderson [RLWE]. The Ohio specimens were misidentified as *Agrius vittaticollis* (Randall 1838) by J. Knull and bear his determination labels.

*Agrius* (s. str.) *benjamini* Fisher 1928. **INDIANA**, Clark Co. State Forest, 7.VII.1935 (1) [PURC]. This uncommon species has previously been recorded only from Florida, Kansas, Missouri, Oklahoma and Texas (Nelson et al. 2008).

*Agrius* (s. str.) *celti* Knull 1920. **ALABAMA**, Madison Co., Huntsville, 26.V.2007 (1), R. Turnbow [TCMC].

*Agrius* (s. str.) *cupreonitens* Fisher 1928. **ARIZONA**, Cochise Co., Baker Canyon, 23.VII.2010 (1), R. Turnbow. Hespénheide (1990) listed this species from Arizona, attributing the record to Westcott et al. (1990), and Bellamy (2008) repeated the listing. However, Westcott et al. (1990) provided no U.S. records for this species, and we are not aware of any other record of the species from the state.

*Agrius* (s. str.) *cuprescens cuprescens* (Ménétriés 1832). **WYOMING**, Platte Co., Esterbrook Road, mm 14, 24.VI.2009 (1), R. Turnbow. Introduced from Europe, this species has established across Canada and the U.S. west to Oregon (Nelson et al. 1996, as *A. cupreus*, *lapsus calami* fide Westcott et al. 2006).

*Agrius* (s. str.) *cyanescens cyanescens* (Ratzeburg 1837). **IOWA**, Lee Co., Shimek State Forest, 21.V.2005 (1), sweeping, D. Veal; Linn Co., Marion, Indian Creek, 22.VI.1982 (1), at light, D. Veal. This is another introduced European species that has established across southeastern Canada and the eastern U.S. (Nelson et al. 2008).

*Agrius* (s. str.) *diospyroides* Knull 1942. **GEORGIA**, Jackson Co., 14.V.1968 (1), R. T. Franklin [TCMC]. This species was previously recorded as far south as North Carolina and Tennessee (Nelson et al. 2008).

*Agrius* (s. str.) *duncani* Knull 1929. **ARIZONA**, Cochise Co., 4–4.5 mi E Fairbank, 22.VII.2010 (2), on *Acacia constricta*, R. Turnbow.

*Agrius* (s. str.) *ferrisi* Dury 1908. **VIRGINIA**, Warren Co., nr. Front Royal, 38°52'10.2" N, 78°12'15.08" W, IV–VIII.2011 (1), purple prism trap, W. Johnson & JPB [JPBC]; **WEST VIRGINIA**, Fayette Co., nr. Thurmond, along New River Gorge National Riverway, 37.96176° N, 81.08276° W, 16.VI.2010, green prism trap; Kanawha Co., Tornado, 38.35252° N, 81.83642° W, 4–22.VI.2010, Lindgren funnel trap [all WVDA]. Recently recorded from eastern Missouri (MacRae 2006), a further western occurrence is: **MISSOURI**, Jackson Co., 17A4, 39.01714° N, 94.12486° W, IX.2008 (8), coll. BD. CP-PPQ [& TCMC]. Although normally associated with *Celtis* spp., MacRae (2006) reported adults emerging from *Acer saccharum* Marshall but questioned the veracity of the host identification. Until an association with the genus *Acer* is verified the species should be considered associated exclusively with *Celtis*.

*Agrius* (s. str.) *geminatus* (Say 1823). **IOWA**, Linn Co., Cedar Rapids, Rock Island Preserve, 1.VI.2001 (1), sweeping weeds, D. Veal.

*Agrius* (s. str.) *granulatus liragus* Barter & Brown 1949. **NEW YORK**, Essex Co., vic. Wilmington, 4–6.VII.1999 (1), J. Huether [UGCA].

*Agrilus* (s. str.) *impexus* Horn 1891. IOWA, Manona Co., Turin Loess Hills SP, 17.VI.2008 (1), sweeping, E. Freese [DAVC]. This represents only the fourth known specimen collected within the past 60 years (Hespenheide 2007).

*Agrilus* (s. str.) *juglandis* Knull 1920. MacRae (2006) reported this species from Missouri on *Juglans nigra* L. (Juglandaceae); however, examination of the voucher specimen male genitalia reveals it is instead *A. transimpressus* Fall 1925. Missouri should be removed from the recorded distribution and *J. nigra* the recorded hosts for this species.

*Agrilus* (s. str.) *neoprosopidus* Knull 1938. MacRae & Nelson (2003) recorded a series of 68 specimens reared from *Leucaena pulverulenta* (Schltldl.) Benth. (Fabaceae) in Cameron Co., Texas. The specimens, however, are actually *A. prosopidis* Fisher 1928. Knull (1938) described this species from a unique male and stated that the marginal and submarginal lateral carinae of the pronotum are separated for their entire length. However, in the above series of *A. neoprosopidus* the lateral carinae consistently are joined at the base. *Agrilus neoprosopidus* further differs from *A. prosopidis* by its greener dorsal coloration, indistinct pubescent spots on the elytra and male genitalia (Knull 1944). Due to its pronotal characters, *A. neoprosopidus* best keys to *A. exiguellus* Fisher 1928 (Fisher 1928) but differs by its dorsal coloration, bright green (male) or green-cupreous (female) frons and parallel-sided prosternal process. There has been confusion in the spelling of the specific epithet for *A. neoprosopidus* because Knull (1938) misspelled *A. prosopidis* as “*prosopidus*” when comparing it to and using the name as a basis for his new species. Blackwelder (1939), Knull (1944), Manley (1977), Arnett (1983), Westcott et al. (2008) and Bellamy (2008) all followed Knull’s original spelling, while Vogt (1949), Hovore & Penrose (1982), Hespenheide (1990), Westcott et al. (1990), Westcott & Hespenheide (2006) and Nelson et al. (2008) used the subsequent spelling “*neoprosopidis*”—all without further comment. Knull’s original spelling was clearly intentional and not a *lapsus calami*, as demonstrated by his subsequent use of it (Knull 1944), or the result of an inadvertent printer error. Thus, it is not subject to mandatory correction (ICZN 1999: Article 32.5). Furthermore, the subsequent spelling cannot be considered an emendation, since no author clearly demonstrated intent to correct (Article 33.2), nor can it be declared the correct original spelling since it never became established in prevailing usage (Article 33.3.1). Therefore, “*neoprosopidus*” is the correct original spelling (Article 32.3), and “*neoprosopidis*” is an incorrect subsequent spelling and unavailable name (Article 33.3).

*Agrilus* (s. str.) *nigricans* Gory 1841. NORTH CAROLINA, Watauga Co., Boone, 27.VI.1973 (2), R. Turnbow [UGCA].

*Agrilus* (s. str.) *oblongus* Fisher 1928. ILLINOIS, Franklin Co., rest stop nr. Benton, 4.VI.2006 (1), on *Celtis occidentalis* L., N. N. Youssef.

*Agrilus* (s. str.) *parvus parvus* Saunders 1870. MASSACHUSETTS: Essex Co., Rockfort, 9.VII.2011 (5), on *Amorpha fruticosa* L. (Fabaceae), T. Murray [JPBC].

*Agrilus* (s. str.) *pectoralis* Waterhouse 1889. TEXAS, Jeff Davis Co., Davis Mts SP, Limpia Canyon PA, 19.IV.2003 (1), beaten ex *Acacia greggii*. Records of specimens reared from *Parkinsonia aculeata* L. & *Ebenopsis ebano* (Berland.) Barneby & J.W. Grimes (Fabaceae) (MacRae 2006) refer to *A. prosopidis*.

*Agrilus* (s. str.) *pensus* Horn 1891. MacRae (2006) reported a single specimen reared from *Betula nigra* L. (Betulaceae) in southeastern Missouri as a new state record and southwestern range extension. A second specimen from the state is



documented in central MISSOURI, Boone Co., Columbia, University of Missouri, 11.VI.2008, on 25-year old *B. nigra* 'Heritage' stressed from compaction, crowding, and several years of drought, C. J. Starbuck [TCMC]. The trees exhibited numerous larval galleries and exit holes presumably belonging to this species.

*Agrilus* (s. str.) *politus* (Say 1825). MINNESOTA, Itasca SP, 19.VI.1980 (12), R. T. Franklin [& TCMC].

*Agrilus* (s. str.) *prosopidis* Fisher 1928. TEXAS, Cameron Co., Brownsville, Sabal Palm Grove Sanctuary, Via del Rio Trail, em. 1–31.VIII.2004 (1) ex *Onciderini*-girdled branch *Leucaena pulverulenta* coll. 6.IV.2004, TCM; 4 mi E Palmito Hill, em. IV.1994 (4) ex dead *Ebenopsis ebano* coll. X.1993, D. J. Heffern [TCMC]. Specimens recorded from *L. pulverulenta* (MacRae & Nelson 2003) are actually *A. neoprosopidis* (see above).

*Agrilus* (s. str.) *putillus putillus* Say 1833. TENNESSEE, Warren Co., Viola, em. 18.IV.2006 (2) & VI.2006 (1) ex *Cornus* sp., JPB; WEST VIRGINIA, Jackson Co., Rippling Waters Campground, nr. Romance, 13.VI.2000 (1), S. Clark [BYU]. This species is normally associated with *Acer* spp.

*Agrilus* (s. str.) *quadriimpressus* Ziegler 1845. IOWA, Linn Co., Cedar Rapids, Rock Island Preserve, 5.VII.2001 (1), sweeping weeds, D. Veal; WISCONSIN, Sauk Co., Camp Piesa Scout Camp, 3 mi S Sauk City, 9.VI.1962 (1), G. Lachmund [UGCA].

*Agrilus* (s. str.) *quercicola* Fisher 1928. TEXAS, Jeff Davis Co., 16.2 mi N Ft. Davis, Hwy 118, McDonald Observatory, 19.VI.2003 (2), beaten ex *Quercus grisea*, TCM.

*Agrilus* (s. str.) *ruficollis* (Fabricius 1787). Nelson et al. (2008) and Bellamy (2008) list this species from California; however, we are unaware of any prior published records from the state. We have examined specimens [JPBC] obtained from a California-based, commercial insect supplier and bearing the following printed labels: "U.S.A.: California: Etiwanda [sic for Etiwanda], May 1979 (3)" / "Agrilus lacustris LeConte." Etiwanda is the specimen supplier's location, and the printed labels without indication of collector or determiner, misspelled locality and erroneous identification all suggest that the specimens were not labeled by the original collector. This raises doubts about their provenance and suggests that other such specimens may be in circulation, perhaps contributing to the catalogue listings by Nelson et al. (2008) and Bellamy (2008). The "Invasive Species List and Scorecards for California" (CISAC 2010) lists this species as "Not present," and the species has not been recorded from any adjacent states. In the absence of material of more certain provenance, we consider the listing as erroneous and the occurrence of this species in California as unlikely.

*Agrilus* (s. str.) *salviaphilos* Manley 1979. TEXAS, Brewster Co., BBNP, Chisos Mts, Pine Canyon, 5000–5200', 1–2.VII.1972 (1), beaten ex *Quercus* sp., R. L. Westcott; McMullen Co., vic. Hwy 99 at Choke Canyon Reservoir, 10.IV.1990 (4), on *Salvia* sp. (Lamiaceae), S. J. Hanselman [RLWE]; Live Oak Co., 17 mi SW George West, 28.IV.2007 (3), D. J. Heffern [& TCMC]. This species has not been reported since its original description from Frio Co., Texas. The BBNP record can also be found in an unpublished inventory of insects in the park (Van Pelt 2007).

*Agrilus* (s. str.) *subtropicus* Schaeffer 1905. Known in the U.S. only from Brownsville (Vogt 1949), Knoll (1937) suspected *Diospyros texana* was the larval host. The following record confirms this and extends the known range farther west:

TEXAS, Hidalgo Co., Santa Ana NWR, em. VIII.2009 (1) ex *Diospyros texana* coll. IV.2009, D. Heffern [TCMC].

*Agrilus* (s. str.) *torquatus* LeConte 1860. **NORTH CAROLINA**, Lincoln Co., em. 27.V.1975 (1) ex girdled limb *Carya illinoensis* (Wangenh.) K. Koch (Juglandaceae) coll. 1.IV.1975, E. Beal [NCSU]; Cary, em. 27.V.1975 (1) ex girdled limb *C. illinoensis* coll. 3.IV.1975, M. Pace [NCSU]; Yancey Co., Burnsville, Mountain Heritage High School, 35°54'39" N, 82°19'56" W, 21.VI.2012 (1), *Cerceris fumipennis* prey, W. G. Swink [EDNC].

*Agrilus* (s. str.) *townsendi* Fall 1907. **ARIZONA**, Yavapai Co., State Trust Land nr. Wagoner, elev 4164', 12S 03529966 3800974 UTM, em. 26.V–9.VI.2011 (1) ex *Quercus* sp. coll. 21.IV.2011, P. Kaufman. This is the first larval host recorded for the species.

*Anthaxia* (*Haplanthaxia*) *dichroa* Bílý 1991. **MISSISSIPPI**, Pearl River Co., 17.IV.2012 (1), C. Werle.

*Anthaxia* (*Haplanthaxia*) *fisheri* Obenberger 1928. **GEORGIA**, Clarke Co., 13.V.1968 (1), "collected on wild plum" [TCMC]; 3.VII.1970 (1), 2–25.VI.1971 (3) & 4.V.1976 (1), R. T. Franklin [UGCA]; **IOWA**, Dallas Co., Tindle Park, 17.VI.2011 (1), sweeping vegetation, E. L. Freese [DAVC]; **NORTH CAROLINA**, Wake Co., Raleigh, 20.V.1958 (1), D. L. Wray [NCSU].

*Anthaxia* (*Haplanthaxia*) *quercata* (Fabricius 1801). **MINNESOTA**, Crow Wing Co., T133R29S, 1–16.VI.1959 (5), "northern red oak," R. T. Franklin [UGCA, TCMC]. In a series of 25 males and 8 females from **FLORIDA**, Alachua Co., Gainesville, 25.IV.2007, on *Quercus* sp., N. N. Youssef [& JPBC, TCMC], individuals of both sexes differ from typical *A. quercata* by their uniform blue-green elytra with no dark longitudinal vittae, thus, resembling *A. cyanella* Gory 1841. However, the bright green lateral areas and darkened central area of the pronotum are typical for *A. quercata*, and the male genitalia agree with those illustrated for *A. quercata* by Wellso et al. (1976).

*Anthaxia* (*Haplanthaxia*) *quercicola* Wellso 1974. **NORTH CAROLINA**, Stokes Co., State Route-1725 at Highway-772, 17.V.1999 (1), sweeping *Quercus* sp., M. S. Wallace [NCSU]; Lenoir Co., Kinston, Kinston Community College, 35°14.07' N, 77°34.31' W, 18.V.2004 (1), on *Betula nigra*, R. L. Blinn [NCSU].

*Anthaxia* (*Haplanthaxia*) *viridifrons* Gory 1841. **MINNESOTA**, Ramsey Co., ex *Ulmus americana* L. (Ulmaceae), fall 1959 (2), R. T. Franklin [UGCA]; **WISCONSIN**, Sauk Co., Sauk City, hills across river, 22.VI.1960 (1), G. Lachmund [UGCA].

*Anthaxia* (*Melanthaxia*) *expansa* LeConte 1857. Barr (1971) speculated that this species utilizes conifers as hosts; however, no such records have yet been published: **ALASKA**, Fairbanks, University of Alaska campus, 64.86291° N, 147.86124° W, elev 170 ± 4 m, 6.VI.2009 (2), on *Picea glauca* (Moench) Voss (Pinaceae), D. S. Sikes [TCMC].

*Aphanisticus cochinchinae seminulum* Obenberger 1929. **MISSISSIPPI**, Pearl River Co., Picayune, Dumus Wise Rd, 30°36'47.06" N, 89°47'23.09" W, 29.XI.2010 (1), J. Ott [JPBC]. Native to Asia and Micronesia, this species has established in Texas and Florida (Wellso & Jackman 1995, Peck & Thomas 1998) and continues to expand its distribution northward.

*Brachys aerosus* (Melsheimer 1845). **MISSOURI**, Stoddard Co., Holly Ridge NA, T25N R11E S6 (NW¼), 3.V.1998 (1), on foliage *Quercus falcata*, TCM. Although

reported from a variety of deciduous trees, adults are most commonly associated with oaks (MacRae 1991).

*Buprestis* (s. str.) *consularis* Gory 1840. **GEORGIA**, Chattooga Co., 6.5 mi S Villanow, USFS Rd 226, 10.VI.2006 (1), J. W. Basham [JPBC]; 15.VII–7.VIII.2006 (1), purple sticky trap, JPB [TSRS]; 1.VII.2006 (2), on *Pinus* sp., N. N. Youssef.

*Buprestis* (*Cypriacis*) *striata* Fabricius 1775. **MISSISSIPPI**, Pearl River Co., Bogue Chitto Wildlife Refuge Area, 18.I–7.II.2010 (3) & 25.I.2011 (1), under bark *Pinus* sp., J. Ott [& RLWE].

*Buprestis* (*Knulloobuprestis*) *rufipes* Olivier 1790. **FLORIDA**, Highland Co., Highlands Hammock SP, Young Hammock Trail, 27°28'31" N, 81°32'45" W, em. 1–10.V.2006 (1) ex decaying standing trunk (12–14" dia) *Quercus laurifolia*, TCM.

*Buprestis* (*Stereosa*) *decora* Fabricius 1775. **WEST VIRGINIA**, Morgan Co., 7 km E Paw Paw, 26.V.1989 (1), sunning on newly installed tar-soaked telephone pole, F. Guarnieri.

*Chalcophora fortis* LeConte 1860. **WEST VIRGINIA**, Morgan Co., 7 km E Paw Paw, 2.VIII.2012 (1), sunning on dry old telephone pole, F. Guarnieri.

*Chalcophora georgiana* (LeConte 1857). **CANADA**, ONTARIO, Peterborough, 17.IX.2010 (1), K. N. Landolt [NNYC]. This species is primarily encountered in the southern U.S. but has been recorded as far north as Pennsylvania (Nelson et al. 2008).

*Chalcophora liberta* (Germar 1824). **WEST VIRGINIA**, Morgan Co., 7 km E Paw Paw, 12.VI.1988 (1), sunning on fresh-cut log *Pinus virginiana* Mill., F. Guarnieri.

*Chrysobothris* (s. str.) *analisis* LeConte 1860. **ARIZONA**, Yavapai Co., Nothing, elev 3192', 12S 0287659 3815724 UTM, em. 29.V–5.VI.2010 (1) ex *Rhus ovata* S. Watson (Anacardiaceae) coll. 17.IV.2010, P. Kaufman; Yarnell, 12S 0337829 3787468, elev 4853', em. 8.V–5.VI.2010 (3) & 14–26.V.2011 (5) ex *Celtis laevigata* var. *reticulata* (Torr.) L.D. Benson (< 1.5" dia) cut 4.III.2009 & coll. 9.III.2010, P. Kaufman [& TCMC]; **TEXAS**, Hidalgo Co., Santa Ana NWR, Trail C, vic. Pintail Lake, em. 18–30.VI.2002 (2) ex *C. laevigata* var. *reticulata* coll. 18.X.2001, TCM; Zapata Co., Falcon Lake SP, Nature Trail, em. 11–20.VI.2004 (1) ex dead branch *Parkinsonia texana*, TCM.

*Chrysobothris* (s. str.) *axillaris* Horn 1886. **TEXAS**, Brewster Co., 25.5 mi S Alpine, Hwy 118 picnic area, em. 21–31.V.2004 (1) & 16–30.VI.2005 (1) ex dead branch *Quercus grisea* 4.IV.2004, TCM. This species has been reared only from oak (Burke 1918, Chamberlin 1926, MacRae 2006).

*Chrysobothris* (s. str.) *bimarginicollis* Schaeffer 1905. MacRae & Nelson (2003) recorded this species from the Davis Mts and regarded a specimen previously recorded as *C. fiskei* Fisher 1942 from New Mexico (Nelson et al. 1996, erroneously given as Colorado) to also represent this species. Reexamination of these specimens shows that they both, in fact, represent *C. fiskei*. The confusion apparently stems from material in the Nelson Collection (now at FSCA) collected in southeastern Arizona, including three specimens collected at Miller Canyon (type locality of *C. bimarginicollis*) on three separate dates. Nelson regarded all of this material to represent *C. bimarginicollis* and placed topotype labels on the Miller Canyon specimens. However, one of the Miller Canyon specimens and several from elsewhere in Arizona actually represent *C. fiskei* based on their sparser, shallower, more irregular pronotal punctation, venter with bright green medial and purplish brown lateral coloration, more distinct elytral costae and bright golden elytral

foveae. Thus, *C. bimarginicollis* is here considered known only from Arizona, while *C. fiskei* occurs more broadly across the southwestern U.S. The following records document *C. bimarginicollis* in the Nelson Collection [FSCA] (all G. H. Nelson unless otherwise indicated) (*C. fiskei* is treated separately below): ARIZONA, Cochise Co., Chiricahua Mts, S Fork Cave Creek, em. 27.VIII.1974 (1) & 1.IX.1975 (1) ex *Quercus arizonica* Sarg. coll. VIII.1973; same data except dead 15.VII–13.VIII.1974 (3 carcasses) ex *Q. hypoleucoides*; Chiricahua Mts, Herb Martyr Dam, em. 23.VII.1977 (1) ex *Q. hypoleucoides* coll. 12.VIII.1976; same data except dead 20.VI–17.VII.1977 (1 carcass), eaten by *Enoclerus bimaculatus* (Skinner 1905) (Cleridae); Chiricahua Mts, 7 mi above Portal, 14–15.VII.1977 (7), on *Q. hypoleucoides*; Chiricahua Mts, 9 mi above Portal, em. 28.V–12.VI.1978 (3) ex *Q. hypoleucoides* coll. 15.VII.1977; Chiricahua Mts, Onion Saddle, 25.VII.1993 (2), on *Q. arizonica*, G. H. Nelson & M. D. Wachel; same locality, 25.VII.2000 (1), on *Q. hypoleucoides*; Huachuca Mts, Miller Canyon, 18.VII.1963 (1), beating *Q. hypoleuca* Miq. (TOPOTYPE); same data except 23.VIII.1964 (1), on *Q. arizonica* (TOPOTYPE); Pima Co., Madera Canyon, 5.IX.1965 (1); Santa Catalina Mts, Bear Canyon, 6.VII.1968 (1).

*Chrysobothris* (s. str.) *caddo* Wellso & Manley 2007. TENNESSEE, Warren Co., nr. McMinnville, 25.V–7.VI.2007 (3), purple sticky trap, J. B. Oliver [TSRS].

*Chrysobothris* (s. str.) *chrysoela chrysoela* (Illiger 1800). ARKANSAS, Pulaski Co., Little Rock, 23.IV.2002 (1), malaise trap, Brian Baldwin [UGCA]; FLORIDA, Collier Co., Collier-Seminole SP, vic. marina, 25°59'18" N, 81°35'39" W, em. 1.VI–14.VIII.2006 (2) ex dead branch *Quercus laurifolia* coll. 25.III.2006, TCM; Highlands Co., Archbold Biological Station, em. 1.VI–3.IX.2006 (1) ex *Vitis* sp. (Vitaceae) coll. V.2006, R. Beiriger; Highlands Hammock SP, Young Hammock Trail, 27°28'31" N, 81°32'44" W, em. 15.VIII–31.X.2006 (4) ex dead branch *Liquidambar styraciflua* L. (Altingiaceae) coll. 30.III.2006, TCM; same data except 27°28'23" N, 81°32'47" W, em. 11–20.IV.2006 (1) ex dead branch *Carya glabra* Mill. (Sweet) coll. 30.III.2006, TCM; GEORGIA, Bibb Co., 4 mi SE Macon, em. 21.IV.1964 (1) ex *Acer saccharum*, L. A. Cambre [UGCA].

*Chrysobothris* (s. str.) *cribraria* Mannerheim 1837. GEORGIA, Clinch Co., 13.VI.1969 (24), on slash *Pinus elliotii* Engelm., R. T. Franklin [UGCA].

*Chrysobothris* (s. str.) *debilis* LeConte 1860. TEXAS, Brewster Co., Big Bend NP, Tornillo Flat, Fossil Bone Exhibit, em. 1–15.VII.2003 (1) ex dead branch *Acacia constricta* coll. 23.X.2001, TCM.

*Chrysobothris* (s. str.) *femorata* (Olivier 1790). Additional larval hosts for this extremely polyphagous species include: MISSOURI, Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, em. 1.V–31.VII.1997 (23) ex live sunburned trunk *Ulmus rubra* Muhl. coll. 31.VIII.1996; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW ¼), em. 8–24.VI.2002 (5) ex dying branch *Crataegus viridis* L. (Rosaceae) coll. 31.III.2002; Clark Co., Battle of Athens SP, vic. playground, T67N R7W S30 (NE ¼), em. from larva cut 19.IV.2003 (1) ex live branch *Tilia americana* L. (Malvaceae); Clark Co., Rose Pond CA, T64N R6W S14/23, em. 8–24.VI.2002 (5) ex dead branch *Salix nigra* Marshall (Salicaceae) coll. 7.IV.2002, all TCM; TENNESSEE, Warren Co., nr. McMinnville, 35°39'45.17" N, 85°51'33.41" W, 30.V.2008 (4), J. W. Basham [JPBC]; Coffee Co., Tullahoma, em. 9.III.2009 (1) ex *Carpinus betulus* L. (Betulaceae), JPB; 27.V.2010 (1), on *Ostrya virginiana* (Mill.) K. Koch (Betulaceae), JPB. A new adult host is: TENNESSEE, Warren Co., nr.

McMinnville, 35°39'45.17" N, 85°51'33.41" W, 31.V.2008 (1) & 27.VII.2008 (2), on *Pyrus calleryana* Decne. 'Bradford' (Rosaceae).

*Chrysobothris* (s. str.) *fiskei* Fisher 1942. The specimen from Davis Mts recorded as *C. bimarginicollis* (MacRae & Nelson 2003) actually represents *C. fiskei*, as does the specimen from New Mexico originally recorded as *C. fiskei* (Nelson et al. 1996, erroneously given as Colorado) but later changed to *C. bimarginicollis* (MacRae & Nelson 2003) (see discussion under *C. bimarginicollis*). The following records document *C. fiskei* in the Nelson Collection [FSCA] (all G. H. Nelson unless otherwise indicated): ARIZONA, Huachuca Mts, Miller Canyon, 25.VIII.1964 (1), on *Quercus arizonica* (*C. bimarginicollis* TOPOTYPE); Chiricahua Mts, Onion Saddle, 25.VII.1993 (1), on *Q. arizonica*, G. H. Nelson & M. D. Wachel; same locality, 25.VII.2000 (1), on *Q. hypoleucoides*; NEW MEXICO, Lincoln Co., 4 mi W Alto, Ski Apache Rd, Little Horseshoe, 29.VII.1995 (1), on *Q. gambelii* Nutt.; same locality, 20.VII.1998 (1), beating *Q. gambelii* Nutt.; W of Alto, Ski Apache Rd., Oak Grove CG, 20–21.VII.1998 (6), beating *Q. gambelii* [& TCMC]. Additional localities in Texas with new adult host records include: TEXAS, Brewster Co., Big Bend NP, Chisos Mts, Lost Mine Trail, 24.VI.2003 (1), beaten ex dead *Quercus emoryi* Torrey x *gravesii* Sudw., TCM; Big Bend NP, Chisos Mts, Pinnacles Trail, 25.VI.2003 (1), beaten ex dead *Quercus grisea*, TCM; Hays Co., 6 mi NW Dripping Springs, 30°13.589' N, 98°11.096' W, elev 1340', 31.III–2.VI.2006 (4), flight intercept trap in *Juniperus*-managed plot, E. G. Riley et al. [& TCMC]. The species has also been recorded from Nuevo León, Mexico (Westcott et al. 1990).

*Chrysobothris* (s. str.) *merkelii* Horn 1886. TEXAS, Brewster Co., Big Bend NP, Chisos Mts, Window Trail, 23.VI.2003 (1), beaten ex dead *Acacia constricta*, TCM.

*Chrysobothris* (s. str.) *neotexana* Dozier 1955. KANSAS, Crawford Co., Pittsburg, 7.VI.2006 (1), G. A. Salsbury [KSUC]. This represents a northwestern extension to the known range of this species (Nelson et al. 2008).

*Chrysobothris* (s. str.) *octocola* LeConte 1858. ARIZONA, Pima Co., Tucson, Rincon Foothills, 32.16669° N, 110.74421° W, elev 2982', 29.VIII.2011 (3), on *Parkinsonia microphylla* Torr., J. Nadeau [JPBC]; OKLAHOMA: Major Co., Gloss Mountain SP, parking lot, 36°21.803' N, 98°34.806' W, elev 1405', 17.IX.2012 (1), on main branch stressed *Prosopis glandulosa*, TCM. The latter represents a northeastern extension to the known range of the species.

*Chrysobothris* (s. str.) *orono* Frost 1920. Knoll (1930) recorded a specimen from "Fresno Co., Tennessee" without further information. There is no such county in Tennessee, thus the following confirms its occurrence in the state and a new larval host: TENNESSEE, Grundy Co., South Cumberland SP, Stone Door, 35°26'22.87" N, 85°38'59.58" W, elev 1669', 28.V–22.VII.2012 (21), on and cut ex exposed root *Pinus virginiana*, N. N. Youssef & JPB. The only previously recorded host is *P. resinosa* Aiton (Wilson 1969).

*Chrysobothris* (s. str.) *parapiuta* Knoll 1938. The following records document the first known larval hosts: Arizona, Yavapai Co., Nothing, elev 3192', 12S 0287659 3815724 UTM, em. 18–28.VI.2010 (1) ex *Rhus ovata* coll. 17.IV.2010; same locality, em. 22–29.V.2010 (2) ex *Rhus trilobata* Nutt. coll. 3.IV.2010; Yarnell, 12S 0337829 3787468, elev 4853', em. 14–21.V.2011 (1) ex *Celtis laevigata* var. *reticulata* (< 1.5" dia) cut 4.III.2009 & coll. 9.III.2010, all P. Kaufman.

*Chrysobothris* (s. str.) *purpureoplagiata* Schaeffer 1904. ARIZONA, Maricopa Co., Hassayampa River Preserve, 12S 0343347 3756133N, elev 1957', em. 4.VII–4.VIII.2008 (9) ex *Acacia greggii* cut 1.III.2007 & coll. 1.III.2008, P. Kaufman.

*Chrysobothris* (s. str.) *quadriimpressa* Gory & Laporte 1837. **GEORGIA**, Chattooga Co., 6.5 mi S Villanow, USFS Rd 226, 8.IV–7.VIII.2006 (58), purple sticky trap and on *Diospyros virginiana* L., JPB [& TSRS]. Numerous specimens from Berrien, Clarke, DeKalb, Effingham, Jackson, Lamar, Montgomery, Paulding, Rabun, Towns and Upson Counties, Georgia [all UGCA] have also been examined; **MINNESOTA**, Hennepin Co. (1) [WFBM]; **MISSISSIPPI**, Forest Co., Camp Shelby, V.2007 (1), J. M. Basham. Other records from Mississippi (all purple sticky trap, D. Boyd, Jr. [TSRS]) include: Pearl River Co., USDA, ARS SFRS, 35.84° N, 89.55° W, 20–27.V.2005 (1) & 14.IV–21.VII.2006 (5); Poplarville, Mississippi State University MAFES, 14–21.VII.2006 (1); Stone Co., Perkinston, Green Forest Nursery, 30.79° N, 89.37° W, 15.IV–12.VIII.2005 (7) & 31.III–21.VII.2006 (4). New larval hosts include: **MISSOURI**, Barry Co., Roaring River CA, T22N R27W S36, em. 1.V–22.VI.2001 (2) ex dead branch *Quercus muehlenbergii* Engelm.; same locality, em. 23–30.IV.2001 (2) ex dead branch *Diospyros virginiana* coll. 7.IV.2001; Carter Co., Peck Ranch CA, Stegall Mountain NA, T28N R2W S19 (NE ¼)–29 (SW ¼), em. 23–30.IV.2001 (1) ex dead branch *Amelanchier arborea* (F. Michx.) Fernald (Rosaceae) (2–3" dia) coll. 14.IV.2001; Peck Ranch CA, Nordic Hollow, T27N R2W S17, em. 8–24.VI.2002 (1) ex dead branch *Q. muehlenbergii* cut 8.IV.2001 & coll. 31.III.2002; St. Clair Co., Lichen Glade NA, T38N R26W S16 (SC 1/9), em. 1–30.VI.2003 (3) ex dead branch *Quercus stellata* Wangenh. coll. 21.IX.2002; Saline Co., Miami Access, Missouri River, T52N R21W S5 (NE ¼), em. 25.VI–11.VII.2002 (2) ex dead sapling *Quercus macrocarpa* Michx. coll. 11.VIII.2001, all TCM.

*Chrysobothris* (s. str.) *rotundicollis* Gory & Laporte 1837. **GEORGIA**, 6.5 miles S Villanow, USFS Rd 226, 14.V–7.VIII.2006 (4), purple sticky trap, JPB [& TSRS].

*Chrysobothris* (s. str.) *rugosiceps* Melsheimer 1845. **MISSOURI**, Boone Co., Prathersville, 0.5 mi N Hwy 63, W Outer Rd, T49N R13W S13 (SE ¼), 5.V.2002 (1), beaten ex *Quercus imbricaria* Michx.; Franklin Co., Meramec SP, 29.V.1988 (3), on dead branch *Quercus rubra* L.; **TEXAS**, Uvalde Co., 2.3 mi N Concan, Hwy 83, 21.V.1995 (3), on trunk/lower branch wind-thrown dying *Quercus texana* Buckley, all TCM. This *C. femorata* species-group member has been associated almost exclusively with oaks.

*Chrysobothris* (s. str.) *shawnee* Wellso & Manley 2007. **TENNESSEE**, Warren Co., McMinnville, Tennessee State University Otis L. Floyd Nursery Research Center, 35°42'28" N, 85°44'40" W, em. VIII.2008 (1) ex *Quercus texana*, JPB. This large member of the *C. femorata* species-group has been associated almost exclusively with oak.

*Chrysobothris* (s. str.) *tranquebarica* (Gmelin 1788). **FLORIDA**, Miami-Dade Co., Miami, Virginia Key, 9.VII.1972 (1), on dead *Avicennia germinans*, R. L. Westcott; Monroe Co., Bahia Honda SP, Silver Palm Nature Trail, 24°39'55" N, 81°15'24" W, em. 23–31.V.2006 (1) ex dead trunk/root living *Coccoloba uvifera* (L.) L. (Polygonaceae) coll. 29.III.2006, TCM. Nelson et al. (2008) did not list Chamberlin's (1926) record of *Conocarpus erectus* L. (Combretaceae); however, Ivie & Miller (1984) confirmed this plant as a larval host.

*Chrysobothris* (s. str.) *viridiceps* Melsheimer 1845. This polyphagous species is most frequently associated with oaks. New larval host records include: **MISSOURI**, Carter Co., Peck Ranch CA, Nordic Hollow, T27N R2W S17, em. 8–24.VI.2002 (5) ex dead branch *Quercus muehlenbergii* Engelm. cut 8.IV.2001 & coll. 31.III.2002; Taney Co., Mincy CA, along Fox Creek, T21N R20W S27, em. 1–15.VI.2001 (4) ex

dead branch *Q. muehlenbergii* (½–2" dia) coll. 7.IV.2001; Mincy CA, vic. area headquarters, T21N R20W S27, em. 1–17.VIII.2002 (5) ex dead branch *Ulmus americana* coll. 17.III.2002; TEXAS, Val Verde Co., 11.6 mi W Comstock, Hwy 90 at Pecos River, em. 1–31.VII.2002 (15) ex dead branch *Quercus vaseyana* Buckley coll. 21.X.2001, all TCM. Additional adult host records are: MISSOURI, Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, 15–16.VI.1996 (3), on dead branch *Quercus lyrata* Walter; Butler Co., 4.1 mi W Jct Hwys PP & 60, T26N R4E S32 (NE¼), on dead branch *Quercus coccinea* Münchh.; Stoddard Co., 0.2 mi W Jct Hwys V & J, T27N R9E S1 (SE¼), 16.VI.1996 (1), on dead branch *Quercus palustris* Münchh.; TEXAS, Brewster Co., Big Bend NP, Chisos Mts Basin, lower Window Trail, elev 4800', 21.VI.1994 (1), on dead *Quercus emoryi*, all TCM.

*Dicerca* (s. str.) *asperata* (Laporte & Gory 1837). TENNESSEE, Franklin Co., Arnold Air Force Base, WMA, 35°18'56.92" N, 86°06'39.04" W, 19–27.VII.2012 (1), white funnel trap, J. B. Oliver [TSRS].

*Dicerca* (s. str.) *pugionata* (Germar 1824). IOWA, Allamakee Co., Fish Farm Mounds, 5.VI.2005 (4), on *Physocarpus* sp. (Rosaceae), D. Veal.

*Dicerca* (s. str.) *punctulata* (Schönherr 1817). FLORIDA, Palm Beach Co., Loxahatchee, 3.II.2006 (1), on *Pinus elliottii*, R. Beiriger [TCMC].

*Hesperorhipis hyperbola hyperbola* Knull 1938. ARIZONA, Yavapai Co., Yarnell, 12S 0337829 3787468, elev 4853', em. 7.V–9.VI.2011 (15) ex dead branch *Celtis laevigata* var. *reticulata* (< 1.5" dia) cut 4.III.2009 & coll. 9.III.2010, P. Kaufman [& TCMC]. This is the first recorded larval host.

*Mastogenius crenulatus* Knull 1934. MISSISSIPPI, Lowndes Co., Hwy 182 at Catalpa Creek, 28.IV.2007 (1), R. Turnbow; OHIO, Franklin Co., Ohio State University campus, Oval nr. Main Library, em. 25.V.2004 (1) ex dead twigs *Juglans nigra* coll. IV.2004, R. Androw.

*Mastogenius robustus* Schaeffer 1905. NEW MEXICO, Grant Co., Hwy 90, 13–16 mi NE Lordsburg, 24.VII.2005 (2), J. Huether [& TCMC]. This species was previously known only from Arizona.

*Paratyndaris* (s. str.) *cincta* (Horn 1885). The only specific localities recorded for this species are Falcon Heights, Texas and "41 mi N San Luis Potosi," Mexico (Nelson & Bellamy 2004). TEXAS, Terrell Co., 20 mi E Dryden, em. VI–X.2008 (2) ex unidentified dead wood coll. 7.X.2008, D. J. Heffern. This represents a northwestern range extension of 283 mi.

*Paratyndaris* (*Knalliella*) *chamaeleonis* (Skinner 1903). TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande Hiking Trail, em. 21.VI–30.IX.2004 (6) ex dead branch *Condalia hookeri* M.C. Johnst. (Rhamnaceae) coll. 8.IV.2004, TCM.

*Phaenops fulvoguttata* (Harris 1829). VIRGINIA, Page Co., nr. Shenandoah, 38°33'2.123" N, 78°38'31.596" W, IV–VIII.2011 (1); Rockbridge Co., Rockbridge Baths, 37°54'28.51" N, 79°25'29.42" W, IV–VIII.2011 (1); nr. Rockbridge Baths, 37°55'49.83" N, 79°26'28.89" W, IV–VIII.2011 (1); nr. Goshen, 37°53'6.467" N, 79°36'17.028" W, IV–VIII.2011 (1); nr. Goshen, 38°0'17.6394" N, 79°32'11.688" W, IV–VIII.2011 (1); Shenandoah Co., nr. Camp Strawderman, 38°53'2.615" N, 78°42'28.692" W, IV–VIII.2011 (1), all taken on purple prism traps, W. Johnson & JPB [JPBC].

*Polycesta* (s. str.) *goryi* Saunders 1871. FLORIDA, Monroe Co., Bahia Honda SP, Silver Palm Nature Trail, 24°39'55" N, 81°15'24" W, em. 4.VII–14.VIII.2006 (2)

ex dead lower trunk/main root of living *Coccoloba uvifera* coll. 29.III.2006; Long Key, Long Key SP, Golden Orb Trail, 24°48'51" N, 80°49'19" W, dead adult cut 28.III.2006 ex dead branch (3–4" dia) *Avicennia germinans*, all TCM.

*Polycesta (Arizonica) arizonica arizonica* Schaeffer 1906. TEXAS, Jeff Davis Co., 11.3 mi W Ft. Davis, Hwy 166 picnic area, 20.VI.2003 (1); 23.6 mi N Ft. Davis, Hwy 118, 20.VI.2003 (1), all beaten ex *Quercus grisea*, TCM.

*Spectralia gracilipes* (Melsheimer 1845). KENTUCKY, Pulaski Co., 3 mi W Nancy, Mill Springs National Cemetery, 37.09368° N, 84.786369° W, 30.V.2011 (1), B. Barnd.

*Taphrocerus* (s. str.) *albodistinctus* Knull 1954. NORTH CAROLINA, Chatham Co., White Pines NA, 17.IV.1991 (1), 2.V.1991 (1), R. L. Blinn [NCSU].

*Taphrocerus* (s. str.) *cylindricollis* Kerremans 1896. TENNESSEE, Warren Co., McMinnville, Tennessee State University Otis L. Floyd Nursery Research Center, 35 42.47N 85 44.67W, 26.V.2005 (1), N. N. Youssef; same data except 17.IV.2007 (2), J. M. Basham [JPBC].

*Taphrocerus* (s. str.) *gracilis* (Say 1825). TENNESSEE, Warren Co., McMinnville, Tennessee State University Otis L. Floyd Nursery Research Center, 35°42'28" N, 85°44'40" W, 12–28.IV.2006 (4), sweeping sedge, JPB [& TSRS].

*Taphrocerus* (s. str.) *howardi* Obenberger 1934. TENNESSEE, Davidson Co., Couchville Cedar Glade NA, 36°06'04" N, 86°31'46" W, 23.VII.2009 (3), JPB; Hamilton Co., Hwy 111N, 7.IX.2005 (1), sweeping vegetation, JPB; Warren Co., McMinnville, Tennessee State University Otis L. Floyd Nursery Research Center, 35°42'28" N, 85°44'40" W, 5–12.V.2003 (1), 25.VII–25.IX.2005 (7) & 13.IV.2006 (1), sticky trap & sweeping sedge/vegetation, JPB, J. M. Basham & N. N. Youssef [& TSRS]; NORTH CAROLINA [all NCSU], Dare Co., Bodie Island, 16.VI.1989 (1), R. L. Blinn; Duplin Co., 20.VI.1963 (1), H. D. Blocker; Hoke Co., McCain NA, 4.IX.1991 (3), R. L. Blinn; Johnston Co., Clayton, 6.VII.1962 (1); Jones Co., 25.VI.1964 (1), H. D. Blocker.

*Taphrocerus* (s. str.) *nicolayi* Obenberger 1924. MISSISSIPPI, Lafayette Co., 6 mi SSW Oxford, Morris Creek, 26.X.2004 (1), E. B. Lago [RAAC]; NORTH CAROLINA, Chatham Co., White Pines NA, 17.IV.1991 (2), R. L. Blinn; Wake Co., Raleigh, 1937 (1); Warren Co., E of Ridgeway, Rd 158, 4.VII.1979 (1), sweeping soybean, S. E. Smith & W. C. Warrick [all NCSU]; TENNESSEE, Sequatchie Co., nr. Fredonia, 28.VII.2005 (1), sweeping vegetation, JPB; Warren Co., McMinnville, Tennessee State University Otis L. Floyd Nursery Research Center, 35°42'28" N, 85°44'40" W, 15.IV–29.VII.2002 (6) & 7.IV–8.VIII.2005 (14), sticky trap, J. B. Oliver [TSRS]; same locality, 17.V.2004 (1), 19–24.VIII.2005 (11) & 12.IV–18.V.2006 (11), 21.III–6.VII.2007 (5) & 29.IV.2008 (1), JPB, J. M. Basham & N. N. Youssef; same locality except 35°42.47 N, 85°44.67 W, 17.IV.2007 (2), J. M. Basham.

*Xenorhipis brendeli* LeConte 1866. FLORIDA, Highlands Co., Highlands Hammock SP, Young Hammock Trail, 27°28'23" N, 81°32'47" W, em. 23–31.V.2006 (1) ex dead branch *Carya glabra* coll. 30.III.2006, TCM; KANSAS, Cherokee Co., 2 mi S Galena, 37.04393° N, 93.64631° W, 28.VI–6.VII.2010 (1), canopy trap, G. A. Salsbury [TCMC].

*Xenorhipis hidalgoensis* Knull 1952. TEXAS, Hidalgo Co., Santa Ana NWR, 26.0760° N, 98.1385° W, em. 27.IV–3.V.2011 (2) ex dead branch *Condalia hookeri*, D. Heffern & B. Raber [TCMC]. This is the first recorded larval host for the species.



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