

**BIOLOGICAL AND DISTRIBUTIONAL OBSERVATIONS ON NORTH AMERICAN
CERAMBYCIDAE (COLEOPTERA)**

TED C. MACRAE
Monsanto Company
700 Chesterfield Parkway West
Chesterfield, MO 63017, U.S.A.
ted.c.macrae@monsanto.com

AND

MARLIN E. RICE
Department of Entomology
Iowa State University
Ames, IA 50011, U.S.A.

Abstract

Biological and distributional observations are presented for 166 species/subspecies of North American Cerambycidae representing 100 genera/subgenera in four subfamilies. New or confirmed records include 245 larval hosts, 39 distributions, 66 flower hosts, and 18 adult hosts. The male of *Gaurotes thoracica* (Haldeman) is described, the holotype deposition of *Purpuricenus linsleyi* Chemsak is clarified, and comments or corrections to previous literature records for several species are made.

In the information that follows, taxa are arranged alphabetically within subfamily, with newly reported or confirmed host plants and distributions indicated in **bold**. Available data are reported telegraphically as: state, county, location, geographical coordinates, date(s) (month in lowercase Roman numerals), number of specimens in parentheses, host association or collection method, original collector (first author if none indicated), and deposition of specimen(s) in [brackets] (Evenhuis and Samuelson 2004, or as listed in the acknowledgments) if other than the original collector. Data from individual records are separated by a semicolon. When more than one county per state or location per county is documented, the state/county is listed only once and is followed alphabetically by its inclusive counties/locations. Abbreviations used are: CA = Conservation Area; coll. = collected; collr(s). = collector(s); Cpgd. = Campground; dia. = diameter; elev. = elevation; em. = emerged; *ex* = out of; Hwy = Highway; Jct = junction; Mts. = Mountains; MV = mercury vapor; NA = Natural Area; NF = National Forest; NP = National Park; nr. = near; NSR = National Scenic Riverway; NWR = National Wildlife Refuge; PA = Primitive Area; RA = Recreation Area; SP = State Park; SRA = State Recreation Area; UTM = Universal Transverse Mercator; UV = ultraviolet; and vic. = vicinity. Fermenting bait traps are *sensu* Champlain and Knull (1932).

The terms “larval host,” “adult host,” and “flower host” are used to indicate plants from which adults were reared or extricated, plants on which adults were collected but for which a larval association was not established, and plants on which adult flower feeding was observed, respectively. Adult hosts may or may not be an indicator of potential larval hosts—their inclusion in “Host Plant” lists

in previous literature without annotation has confounded understanding of true host associations for certain species. In this paper, adult hosts are recorded primarily when few or no larval host associations are known for the species, or they provide strong evidence of a larval association, and are clearly identified as such. The majority of the larval hosts in this paper are newly recorded, but some are presented to confirm previous “host plant” reports in which the nature of the association was ambiguous. In the case of insects collected by the first author, host plants were identified in the field (if familiar) or sampled, pressed and mounted, and submitted to botanists listed in the acknowledgments for identification. Voucher plant specimens are deposited at their respective institutions or TCMC [T. C. MacRae Collection]. For insects collected by other than the first author, plant identities are as noted by the original collector. Plant nomenclature follows Kartesz and Meacham (1999), with family indicated at first mention of a genus and authority at first mention of a species.

This paper is dedicated to the memory of the late Frank T. Hovore (1945–2006) to recognize his significant contributions to our understanding of the taxonomy, biology and distribution of Cerambycidae in the Western Hemisphere.

Subfamily Prioninae

Mallodon dasystomus dasystomus (Say). Few Missouri specimens were examined by MacRae (1994), but the species is apparently well established in southeast Missouri where it breeds in the trunks of large, declining or recently dead sycamore trees (*Platanus occidentalis* L.). Specific records are: MISSOURI, Carter Co., Ozark NSR, Big Spring, T27N R1E S6, 23.vii.2000 (2), under bark of 3–4' dia. trunk standing dead *P. occidentalis*; Mississippi Co., 5.2 mi W Hwy AB on Hwy WW, T23N R16E S16, 18.vii.2000 (2), dead at base of 3–4' dia. trunk declining *P. occidentalis*; same data except em. 1.vii–18.ix.2000 (4) & 1.vii–5.viii.2001 (4) *ex* dead wood sections coll. 27.v.2000; Oregon Co., Eleven Point River, Riverton Access, T23N R2W S17, 7.viii.1998 (1), dead at base of large, dying *P. occidentalis* exhibiting emergence holes. The specific epithet is frequently given as “*dasytomus*” in the literature, but this is an incorrect subsequent spelling (ICZN 1999, Article 32.3) of “*Prionus dasystomus*” (Say 1824).

Sphenostethus taslei (Buquet). Only five Missouri specimens were examined by MacRae (1994), making the following record noteworthy for the state: MISSOURI, Ripley Co., T24N R2E-1, 23.vii.2003 (4), flight intercept trap, R. Lawrence collr. [& TCMC].

Subfamily Cerambycinae

Anelaphus belkini Skiles and *A. villosus* (Fabricius). *Anelaphus belkini* was described from specimens collected on dead *Quercus emoryi* Torr. (Fagaceae) and at light in the Davis Mts. of west Texas (Skiles 1985). It is distinguished from the closely related *A. villosus* by its elytral apices spinose only at the suture and white rather than yellow dorsal pubescence. Additional specimens were collected at UV light near the type locality on 18.vi.1994 (1) and TEXAS, Jeff Davis Co., Davis Mts. SP, W end of cpgd., 16–17.vi.1994 (2) & 15–23.v.1995 (2), at UV light. New locality records for *A. belkini* include: Brewster Co., **Big Bend NP**, Chisos Basin Lodge, elev. 5,500', 22.vi.1994 (1) & 24.vi.2003 (1), at building light; Big Bend NP, Barker House, 1.6 mi E Rio Grande Village, 22.vi.2003 (1), at building light. Van Pelt (1999) listed *A. villosus* from Big Bend NP; however, the above records suggest the listing refers instead to *A. belkini*.

Anelaphus davisi Skiles. This species was described from three specimens collected on dead *Quercus emoryi* and at light in the Davis Mts. of west Texas (Skiles 1985). It is distinguished from the closely related *A. parallelus* (Newman) by its emarginate rather than bispinose elytral apices and more closely punctate metasternum, abdomen, and legs. Additional specimens were collected at UV light near the type locality on 18.vi.1994 (3) and at Davis Mts. SP, W end of cpd., 23.v.1995 (1), at UV light. New locality and state records include: Brewster Co., **Big Bend NP**, Chisos Mts., Lost Mine Trailhead, elev. 5,860', 22.vi.1994 (1), at UV light; **NEW MEXICO**, San Juan Co., Pump Canyon, 13S 241972/4076642N UTM, 12.vi–2.vii.2005 (2), fermenting bait trap, P. Kaufman collr. [& TCMC]; Knickerbocker Peaks, N. Side Hwy 173, 13S 256589/4084546N UTM, 30.vii–6.viii.2005 (1), fermenting bait trap, P. Kaufman collr.

Anelaphus moestus moestus (LeConte). TEXAS, Brewster Co., Big Bend NP, Laguna Meadow Trail, 22.vi.2003 (1), cut *ex* dead trunk *Pinus cembroides* Zucc. (Pinaceae); Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 21.ix–7.xi.1986 (2) *ex* dead branch *Prosopis glandulosa* Torr. (Fabaceae) coll. x.1985; Val Verde Co., 11.6 mi W Comstock, Hwy 90 at Pecos River, em. 17–31.viii.2003 (1) *ex* dead branch *Celtis laevigata* var. *reticulata* (Torr.) L. Benson coll. 21.x.2001; same locality, em. 1–16.viii.2003 (1) *ex* dead branch *Acacia rigidula* Benth. coll. 26.vi.2003. This species has been reared from a number of plant genera (Hovore and Giesbert 1976; Turnbow and Wappes 1978; Rice 1985; Rice *et al.* 1985; Hovore *et al.* 1987), but the *Pinus* record appears to be the first from a gymnospermous host.

Anelaphus moestus pinorum (Casey). FLORIDA, Collier Co., Collier-Seminole SP, vic. boat ramp, em. 17–31.v.1999 (1) *ex* dead branch *Quercus laurifolia* Michx. (Fagaceae) cut 1.iii.1998 & coll. 25.iv.1999. No host associations have previously been reported for this southeastern U.S. subspecies.

Anelaphus parallelus (Newman). Additional specific larval hosts for this polyphagous species are: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 10–20.iv.2002 (2) *ex* dead branch *Quercus phellos* L. cut 8.iv.2001 & coll. 31.iii.2002; same locality, em. 10–20.iv.2002 (1) *ex* dead branch *Crataegus viridis* L. (Rosaceae) cut 8.iv.2001 & coll. 31.iii.2002; same data except em. 13.iv–11.v.2003 (19) *ex* wood coll. 21.iii.2003; Clark Co., Rose Pond CA, T64N R6W S13 (SW¼), em. 13–30.iv.2003 (1) *ex* dead branch *Betula nigra* L. (Betulaceae) coll. 5.x.2002; St. Clair Co., Lichen Glade NA, T38N R26W S16 (SC1/9), em. 13.iv–21.v.2003 (25) *ex* dead branch *Quercus stellata* Wangenh. coll. 21.ix.2002; Taney Co., Mincy CA, vic. cpd., T22N R20W S16 (SE¼), em. 1–11.vii.2002 (1) *ex* dead branch *Celtis tenuifolia* Nutt. (Ulmaceae) cut 7.iv.2001 & coll. 15.ix.2001. Van Pelt (1999) listed *A. parallelus* from Big Bend NP; however, the listing may refer instead to the closely related *A. davisi*, which was identified from recent collections in the park (see above).

Anelaphus pumilus (Newman). Linsely (1963) listed several woody plant genera as hosts, but it is unclear whether these are larval or adult associations. Confirmed larval hosts for the species are: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 10–20.iv.2002 (1) *ex* dead branch *Quercus phellos* cut 8.iv.2001 & coll. 31.iii.2002; Carter Co., Ozark NSR, Big Spring, vic. cpd., T27N R1E S31 (SE¼), em. 13–30.vi.2003 (1) *ex* dead branch *Betula nigra* coll. 31.iii.2002; Clark Co., Battle of Athens SP, vic. playground, T67N R7W S30 (NE¼), em. 11–20.v.2004 (1) *ex* dead branch *Quercus alba* L. coll. 13.iii.2004; Stone Co., Ashe Juniper NA, 4.0 mi N Hwy 86 on Hwy JJ, T22N R22W S20, em. 16–23.v.2001 (1) *ex* 1–3" dia. dead branch *Acer saccharum* Marsh.

(Aceraceae) coll. 17.ix.2000; Taney Co., Mark Twain NF, Hercules Glades Wilderness, Long Creek Trail, T23N R18W S14-15, 27.ix.2003 (1), cut *ex* dead branch *Quercus velutina* Lam.

Batyle ignicollis ignicollis (Say). Adults of this species have been recorded on flowers of several plants (Smith and Ueckert 1974; Lingafelter and Horner 1993; MacRae 1994), to which the following can be added: TEXAS, Brewster Co., Big Bend NP, Chisos Mts., Green Gulch, 3.8 mi S Jct Hwys 118 & 14, elev. 5,300', 23.vi.1994 (1), on flower *Nolina texana* S. Wats. (Liliaceae).

Batyle suturalis suturalis (Say). Recorded larval hosts for this eastern U.S. subspecies include *Carya* (Juglandaceae), *Castanea* (Fagaceae), *Celtis occidentalis* L., *C. tenuifolia*, *Quercus coccinea* Muenchh., and *Salix* sp. (Salicaceae) (Craighead 1923; Champlain *et al.* 1925; MacRae 1994). Additional larval hosts are: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW ¼), em. 30.vi-5.vii.1998 (1) *ex* dead branch *Crataegus viridis* coll. 22.iv.1998; same locality, em. 21-30.vi.1998 (1) *ex* dead branch *Celtis laevigata* Willd. cut 23.iv.1998 & coll. 10.iv.1999; McDonald Co., 1.1 mi S Powell on Hwy E, T22N R30W S21 (SE ¼), em. 1-30.iv.2000 (3) *ex* small dead *Sapindus saponaria* var. *drummondii* (Hook. & Arn.) L. Benson (Sapindaceae).

Batyle suturalis cylindrella Casey. Recorded flower hosts for this southwestern U.S. subspecies include *Baccharis salicifolia* (Ruiz & Pavón) Pers., *Helianthus* (both Asteraceae), and *Opuntia* (Cactaceae) (Hovore *et al.* 1987; Boldt and Robbins 1990). Additions are: TEXAS, Jeff Davis Co., Davis Mts. SP, Limpia Canyon PA, 17.vi.1994 (12), on flowers *Ratibida columnifera* (Nutt.) Woot. & Standl. & *Thelesperma simplicifolium* Gray (both Asteraceae); 11.3 mi W Ft. Davis, Hwy 166 picnic area, 20.vi.1994 (2), on flower *T. simplicifolium*.

Brothylus conspersus LeConte. This species has been recorded breeding in several *Quercus* spp. and *Fraxinus latifolia* Benth. (Oleaceae) (Linsley 1962; Tyson 1966; Cope 1984). Another larval host is: CALIFORNIA, Colusa Co., 15 mi SW Williams, em. 25.iv.1993 (1) *ex* dead branch *Quercus agrifolia* Née coll. iv.1992.

Callidium antennatum hesperum Casey. Linsley *et al.* (1961) did not include this western U.S. subspecies in their survey of Cerambycidae in southeastern Arizona, but its occurrence there is confirmed by the following record: ARIZONA, Cochise Co., Chiricahua Mts., Cave Creek Canyon, vic. Sunny Flat Cpgd., elev. 5,030', em. 1-7.iv.1999 (21) *ex* dead branch *Pinus cembroides* coll. 3.viii.1998. The species has been reported breeding in other species of *Pinus*, as well as *Pseudotsuga menziesii* (Mirbel) Franco and *Tsuga mertensiana* (Bong.) Carr. (both Pinaceae) (Linsley 1964; Tyson 1970b; Deyrup 1977; Rice *et al.* 1985; Vlasak and Vlasakova 2002).

Callidium frigidum Casey and *C. texanum* Schaeffer. MacRae (1994) reported *C. frigidum* occurring commonly throughout Missouri; however, reconsideration of this material in comparison with determined specimens shows it actually represents *C. texanum*. *Callidium frigidum* is apparently limited to southeastern Canada and the northeastern U.S. (Linsley 1964). *Callidium texanum* has been recorded breeding in *Juniperus virginiana* L. (Cupressaceae), *J. occidentalis* Hook. and *J. osteosperma* (Torr.) Little (Linsley 1964; Tyson 1970b; Westcott *et al.* 2006). An additional larval host for *C. texanum* is: MISSOURI, Stone Co., Ashe Juniper NA, T22N R22W S20, em. 1.iv-11.vi.1997 (68) *ex* dead branch *Juniperus ashei* Buchh. (Cupressaceae) coll. v.1996; 3.6 mi N Hwy 85 on JJ, T22N R22W S20, em. 1.iv-11.vi.1997 (75) *ex* dead branch *J. ashei* coll. v.1996; OKLAHOMA, Murray Co., 2.6 mi S Turner Falls Park on Hwy 77, em. 15-21.vi.1998 (1) *ex* fire-killed branch *J. ashei* coll. 10.x.1997.

Callimoxys sanguinicollis sanguinicollis (Olivier). MISSOURI, Clark Co., Frost Island CA, Steyermark Prairie NA, T65N R6W S9 (SE¼), 20.v.2001 (10), beaten from *Juglans nigra* L. (Juglandaceae). This species has been reared from *Carya* prob. *alba* (L.) K. Koch, *Prunus caroliniana* (P. Mill.) Ait. (Rosaceae), and *Quercus* (Rice 1981; Linsley and Chemsak 1997; Vlasak and Vlasakova 2002), and the number of adults collected on *J. nigra* suggest this might also be a larval host.

Calloides nobilis nobilis (Harris). MISSOURI, Carter Co., Peck Ranch CA, Stegall Mountain NA, T28N R2W S19 (NE¼)–29 (SW¼), em. 8–15.v.2001 (1) ex ½–2" dia. lower trunk fire-killed *Quercus velutina* coll. 14.iv.2001. Previously recorded larval hosts for this handsome species include *Castanea sativa* P. Mill., *C. dentata* (Marshall) Borkh. [= *C. vesca* Willd.], *Fraxinus americana* L., and *Quercus rubra* L. (Linsley 1964; Linsley and Chemsak 1997).

Chemsakiella ricei (Chemsak). TEXAS, Crosby Co., White River Lake, 5.x.1990 (12), on *Dalea formosa* Torr. (Fabaceae), M. E. Rice collr.; Dickens Co., 3 mi NW Dickens, Hobble Scobble Canyon, 6.x.1990 (1), on *D. formosa*, M. E. Rice collr. One specimen of the type series was originally collected by M. E. Rice on *Heterotheca* sp. (Asteraceae) (Chemsak 1984), although it was suspected that this was not the larval host. In early October, adults were found during the morning hours resting on the distal ends of blooming *D. formosa* branches. Adults were found on plants on both the east and west sides of White River Lake near the dam area. Several plants were cut apart and larval tunnels were found in the crown and thicker stems near ground level. One larva was found which later emerged as an adult of this species.

Clytus ruricola (Olivier). Adults of this species have been recorded on flowers of several plants (Gosling 1973; Wheeler and Hoebeke 1985; Rice and Veal 2006), to which the following can be added: MICHIGAN, Alger Co., 6 mi S Grand Marais, T48N R14W S1, 5.vii.1989 (5), on flower *Viburnum nudum* var. *cassinoides* (L.) Torr. & Gray (Caprifoliaceae); Iron Co., 5 mi W Crystal Falls, T43N R33W S21, 8.vii.1989 (2), on flower *Rhus hirta* (L.) Sudworth (Anacardiaceae); WISCONSIN, Forest Co., Blackwell, 8.vii.1989 (1), on flower *R. hirta*.

Crossidius hirtipes wickhami Casey. This subspecies has been recorded from Arizona, Colorado, Nevada, Utah (Linsley and Chemsak 1961; Heffern 1998). The following record also confirms its occurrence in the Four Corners area of: NEW MEXICO, San Juan Co., 2 mi N Hwy 64 on County Road 350, N36°43' W108°05', 5–20.viii.2005 (3), on flower *Ericameria nauseosa* (Pallas ex Pursh) Nesom & Baird. [= *Chrysothamnus nauseosus*] (Asteraceae), P. Kaufman collr. [& TCMC].

Cyrtophorus verrucosus (Olivier). To the many flower hosts recorded for this species (Gosling 1984a; MacRae 1994; Schiefer 1998a) the following can be added: CONNECTICUT, Litchfield Co., 0.5 mi W Jct Hwys 41 & 112, 16.vi.1993 (1), on flower *Phlox* sp. (Polemoniaceae); MISSOURI, Cape Girardeau Co., Trail of Tears SP, Bluff Trail, 3.v.1993 (1), on flower *Crataegus* sp., M. S. Arduser & J. Stevens collrs. [TCMC]. MacRae (1994) reported a specimen reared from *Fagus grandifolia* Ehrh. [= *F. americana*] (Fagaceae) (MISSOURI, Franklin Co., Gray Summit, em. 30.iii.1986), but the plant was in reality *Fagus sylvatica* L.

Dryobius sexnotatus Linsley. This attractive species has been recorded breeding in *Acer*, *Fagus*, *Quercus*, *Tilia* (Tiliaceae), and *Ulmus* (Ulmaceae), with specific records from *Acer saccharinum* L. and *Fagus grandifolia* (Riley 1880; Beutenmüller 1896; Perry *et al.* 1974). Another specific host record is: MISSOURI, Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, em. 23–

29.vi.1998 (1) *ex* slightly decayed 12–14" dia. lower trunk standing dead *Ulmus rubra* Muhl. coll. 4.vii.1997.

Eburia haldemani LeConte. Previously recorded larval hosts for this species include *Celtis laevigata* var. *reticulata*, *Ulmus crassifolia* Nutt., and *Morus rubra* L. (Moraceae) (MacKay *et al.* 1987; Linsley and Chemsak 1997; Szafranski 2002). An unusual larval host is represented by the following record: OKLAHOMA, Murray Co., 2.6 mi S Turner Falls Park on Hwy 77, em. 20–31.vii.1998 (1) *ex* fire-killed branch *Juniperus ashei* coll. 10.x.1997.

Eburia mutica LeConte. This species is known from southern to western Texas, where it has been reared from a variety of woody plants (Dean 1953; Turnbow and Wappes 1978; Hovore and Penrose 1982; Rice 1985; Boldt and Robbins 1987; Hovore *et al.* 1987; Szafranski 2002). The following records document additional larval hosts and extend its known distribution further westward to southeastern: ARIZONA, Cochise Co., Huachuca Mts., Copper Canyon, 0.25 mi NE Road 61 on 103, elev. 6,000', em. 15–31.x.1998 (1) *ex* dead branch *Quercus arizonica* Sarg. coll. 6.viii.1998; TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 7.ix–2.x.1999 (2) *ex* dead branch *Celtis pallida* Torr. coll. 8.x.1997; same locality, em. 1–30.ix.2003 (1) *ex* dead branch *Parkinsonia aculeata* L. (Fabaceae) coll. 17.x.2001; Zapata Co., Falcon Lake SP, along Nature Trail nr. Lake, em. 1–30.xi.1998 (1) *ex* dead branch *P. aculeata* coll. 7.x.1997; Santa Ana NWR, vic. Willow Lake, em. 18.viii–2.x.1999 (3) *ex* dead branch *P. aculeata* coll. 9.x.1997.

Elaphidion linsleyi Knull. TEXAS, Brewster Co., Big Bend NP, Chisos Mts. Basin, upper Window Trail, em. 8–17.vi.2002 (2) *ex* dead branch *Rhus virens* var. *choriophylla* (Woot. & Standl.) L. Benson coll. 22.x.2001; Chisos Mts. Basin, Basin Lodge, elev. 5,500', 23.vi.1994 (4), in fermenting bait traps; Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 1.viii–31.x.1995 (2), 1–31.vii.1996 (1) & 20–31.xi.1998 (1) *ex* dead branch *Acacia farnesiana* (L.) Willd. (Fabaceae) coll. v.1995; Jeff Davis Co., 11.3 mi W Ft. Davis, Hwy 166 picnic area, 19.vi.1994 (1), on flower *Rhus lanceolata* (Gray) Britt. Previously recorded larval hosts include *Salix* prob. *nigra*, *Ungnadia speciosa* Endl. (Sapindaceae), and *Baccharis neglecta* Britt. (Turnbow and Wappes 1981; Rice 1985; Palmer 1987).

Elaphidion mucronatum (Say). This is one of the most polyphagous North American cerambycids, having been reared from at least 31 genera of both angiospermous and gymnospermous plants (Linsley 1963; Kirk 1969, 1970, Gosling 1984a; Rice *et al.* 1985; Boldt and Robbins 1987; MacRae 1994). It occurs commonly in the eastern U.S. and has been recorded as far west as the Davis Mts. in western Texas (Linsley 1963), where it is sympatric with the closely related *E. linsleyi*. The following records document additional larval hosts and extend its known distribution further westward to: ARIZONA, Cochise Co., Chiricahua Mts., 12.3 mi NW Portal on Road 42, Onion Saddle, elev. 7,600', em. 12–30.vi.1999 (2) *ex* dead branch *Quercus hypoleucoides* A. Camus coll. 4.viii.1998; MISSOURI, Boone Co., Rock Bridge SP, em. 1.vi–30.vi.2001 (3) *ex* trunk fire-killed *Diospyros virginiana* L. (Ebenaceae) coll. 9.ix.2000; Butler Co., 6.0 mi S Neelyville, Big Hunting Slough, T22N R6E S29 (NE¼), em. 22–29.vi.1998 (5) & 21–30.vi.1999 (4) *ex* dead branch *Carpinus caroliniana* Walt. (Betulaceae) cut 23.iv.1996 & coll. 23.iv.1997; St. Clair Co., Dave Rock NA, 1.6 mi S Lowry City, T39N R26W S25 (NE¼), em. 1.vi–20.vii.2004 (4) *ex* dead branch *Amelanchier arborea* (Michx. f.) Fern. (Rosaceae) coll. 30.v.2003; Stoddard Co., Duck Creek CA, W side of Pool 2, T27N R9E S4, em. 15–

21.vi.1996 *ex* dead branch *Gleditsia triacanthos* L. (Fabaceae) coll. 14.ix.1996; Holly Ridge CA, T25N R11E S6 (NW $\frac{1}{4}$), em. 21.vi–17.vii.1999 (6) *ex* dead branch *Prunus serotina* Ehrh. coll. 31.viii.1997; Otter Slough CA & NA, T24N R9E S8 (SE $\frac{1}{4}$), em. 15–30.vi.2003 (2) *ex* dead branch *Salix nigra* Marsh. (Salicaceae) coll. 8.vi.2002; TEXAS, Jeff Davis Co., Davis Mts. SP, Limpia Canyon PA, em. 1–30.vi.2000 (5) *ex* dead branch *Celtis laevigata* var. *reticulata*, R. S. Thoma collr. [TCMC]. MacRae (1994) reported rearing a specimen from *Carya* sp., but the specimen actually represents *Parelaphidion aspersum* (Halde-

man). *Elaphidionopsis fasciatipennis* Linsley. TEXAS, Val Verde Co., 11.6 mi W Comstock on Hwy 90 at Pecos River, 13–16.vi.1994 (2), at fermenting bait trap; same locality, em. 16.ix–15.x.2002 (3) & 16.vii–31.viii.2003 (10) *ex* dead branch *Celtis laevigata* var. *reticulata* coll. 21.x.2001. These records from near the type locality represent the first larval host reported for this uncommon species. Adults are also attracted to light (Linsley 1936; Hovore *et al.* 1987).

Elytroleptus floridanus (LeConte). This species is encountered primarily along the Gulf Coast and eastern U.S. seaboard (Linsley 1962), with *Quercus marilandica* Muenchh. the only previously recorded larval host (Schiefer 1998a). A significant northwestern range extension and additional larval host are represented by the following record: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW $\frac{1}{4}$), em. 10–20.iv.2002 (1) *ex* dead branch *Quercus phellos* cut 8.iv.2001 & coll. 31.iii.2002.

Enaphalodes atomarius (Drury). MISSOURI, Stone Co., Ashe Juniper NA, 4.0 mi N Hwy 86 on JJ, NE corner of parcel, T22N R22W S20, em. 18.vi–11.vii.2002 (2) *ex* 3–4" dia. lower trunk fire-killed *Quercus velutina* coll. 17.iii.2002. Also recorded from *Carya*, *Castanea*, *Celtis*, *Quercus virginiana*, *Juglans nigra*, and dry leaf stems of *Sabal palmetto* (Walt.) Lodd. *ex* J.A. & J.H. Schultes [= *Chamaerops palmetto*] (Arecaceae) (Riley 1880; Craighead 1923; Linsley 1963).

Euderces picipes (Fabricius). Several specimens from southeastern Missouri were reported as *E. pini* (Olivier) (MacRae 1994), which they resemble due to the presence of oblique, white pubescent fasciae at the apical one-third of the elytra. Unlike those of *E. pini*, however, they are not located within distinct grooves on the elytral surface. No such character was mentioned for this species by Giesbert and Chemsak (1997) in their recent review of the genus, but in all other respects the specimens agree with their concept of *E. picipes*. Label data from these specimens are: MISSOURI, Butler Co., 10 mi NW Poplar Bluff on Hwy 60, 15.vi.1957 (1), Enns & Wood collrs. [UMRM]; Cape Girardeau Co., Trail of Tears SP, 27.v.1985 (2), G. Balogh collr. [TCMC]; Ste. Genevieve Co., Hawn SP, 25.v.1985 (3), on flower *Ptelea trifoliata* L. (Rutaceae); same locality, em. 26–30.v.1988 (5) *ex* dead branch *Celtis occidentalis* coll. iii.1988; same locality, 27.v.1989 (2), on flower *Rubus* sp. (Rosaceae); Scott Co., 2 mi S Kelso, em. 25.vi.1990 (1) *ex* dead branch *Carya illinoensis* (Wangenh.) K. Koch coll. 29.xii.1988; Stoddard Co., Duck Creek CA, 28.v.1988 (1), beaten from dead branch of *Quercus palustris* Muenchh.; Holly Ridge CA, 31.v–1.vi.1985 (4), flower of *Daucus carota* L. (Apiaceae); Otter Slough CA, 28.v.1989 (9), beaten from *Amorpha fruticosa* L. (Fabaceae), *Diospyros virginiana* & *Q. palustris*. The specimens reported by MacRae (1994) as "*E. picipes occidentalis* Linsley" (= *E. picipes*) reared from *Fagus grandifolia* in reality are *E. pini* (see below), thus, this larval host record should be stricken for *E. picipes*. A variety of woody plant species have been recorded as larval hosts (Beutenmüller 1896; Craighead 1923;

Knoll 1930, 1946; Gosling 1984a; Lingafelter and Horner 1993; MacRae 1994) for this widely distributed eastern U.S. species (Giesbert and Chemsak 1997). Additional larval and flower hosts and a newly recorded state occurrence are: **LOUISIANA**, Natchitoches, 7.vi.1966 (1), Poe collr. [UMRM]; **MISSOURI**, Barry Co., Roaring River CA, T22N R27W S36, em. 8–15.v.2001 (1) & 1–7.v.2002 (1) *ex* dead branch *Quercus muhlenbergii* Engelm. coll. 7.iv.2001; Butler Co., 6.0 mi S Neelyville, Big Hunting Slough, T22N R6E S29 (NE¼), em. 1–7.vi.1998 (1) *ex* dead branch *Carpinus caroliniana* cut 23.iv.1996 & coll. 23.iv.1997; 6.6 mi SE Neelyville, T22N R6E S28 (NE¼), em. 12–22.vi.1997 (1) & 11–20.vi.1999 (1) *ex* dead branch *Taxodium distichum* (L.) L. C. Rich. (Taxodiaceae) cut 23.iv.1996 & coll. 14.ix.1996; Allred Lake NA, T22N R5E S36, em. 11–31.v.2004 (2) *ex* dead branch *Gleditsia triacanthos* coll. 21.iii.2004; Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 1–31.v.1997 (2) *ex* dead branch *Betula nigra* coll. v.1997; same locality, em. 1–7.v.2001 (2) *ex* dead *Rhus glabra* L. cut 18.iii.2000 & coll. 8.iv.2001; same locality, em. 1–7.v.2001 (1) *ex* ¼–1½" dia. dead branch *Salix nigra* coll. 8.iv.2001; Carter Co., Ozark NSR, Big Spring, vic. cpgd., T27N R1E S31 (SE¼), em. 1.v–15.vii.2001 (8) *ex* dead branch *B. nigra* coll. 14.iv.2001; same data except em. 15–30.vi.2003 (1) *ex* wood coll. 31.iii.2003; Clark Co., Rose Pond CA, T64N R6W S13 (SW¼), em. 12–21.v.2003 (1) *ex* dead branch *B. nigra* coll. 5.x.2002; Laclede Co., Bennett Spring, Savanna Preserve, 15.v.2001 (3), on flower *Orbexilum pedunculatum* var. *psoralioides* (Walt.) Isely (Fabaceae), M. S. Arduser collr. [TCMC]; St. Louis Co., Clarkson Valley, Jct Orville & Shepard Roads, em. 1.v–22.vi.1997 (2) *ex* dead branch *Carya alba* coll. v.1997; Stoddard Co., Holly Ridge CA, T25N R11E S6 (NW¼), em. 1–10.vi.1999 (1) *ex* dead branch *Prunus serotina* coll. 31.viii.1997.

Euderces pini (Olivier). Several specimens reported as this species (MacRae 1994) are in reality *E. picipes*, thus, the following host records should be stricken for *E. pini*: *Celtis occidentalis* (larval host); *Quercus palustris* (adult host); *Ptelea trifoliata* and *Rubus* sp. (flower hosts) (see above). A number of woody plant species have already been recorded as larval hosts for this species (Turnbow and Hovore 1979; Rice *et al.* 1985; MacRae 1994; Giesbert and Chemsak 1997), but the species is apparently much more polyphagous and widespread than previously realized: **ARIZONA**, Cochise Co., Huachuca Mts., Copper Canyon, 0.25 mi NE Road 61 on 103, elev. 6,000', em. 1–22.iv.1999 (4) *ex* dead branch *Quercus arizonica* coll. 6.viii.1998; **MISSOURI**, Barry Co., Roaring River CA, T22N R27W S36, em. 9–22.iv.2001 (1) *ex* dead branch *Fraxinus quadrangulata* Michx. coll. 7.iv.2001; same locality, em. 1–9.v.2002 (1) *ex* dead branch *Ostrya virginiana* (P. Mill.) K. Koch (Betulaceae) cut 7.iv.2001 & coll. 17.iii.2002; Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, em. 10–30.iv.1999 (3) *ex* dead branch *Taxodium distichum* cut 23.iv.1997 & coll. 23.iv.1998; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 9–22.iv.2001 (2) *ex* dead branch *Rhus glabra* cut 18.iii.2000 & coll. 8.iv.2001; same locality, em. 10–20.iv.2002 (1) *ex* dead branch *Crataegus viridis* cut 8.iv.2001 & coll. 31.iii.2002; same data except em. 13.iv–15.vii.2003 (50) *ex* wood coll. 21.iii.2003; Cape Girardeau Co., Trail of Tears SP, em. 23.iv–3.v.1989 (7) *ex* dead branch *Fagus grandifolia* coll. 29.xii.1988 [previously reported as *E. picipes occidentalis* (MacRae 1994)]; Carter Co., Peck Ranch CA, Nordic Hollow, T27N R2W S17, em. 21–30.iv.2002 (1) *ex* dead branch *Quercus muhlenbergii* cut 8.iv.2001 & coll. 31.iii.2002; Dade Co., Stockton Lake, T33N R25W S26 (NE¼), em. 15–26.iv.1998 (6) *ex* 2–4" dia. dead trunk *Carya ovata* (P. Mill.) K. Koch coll. 12.vi.1997; Jasper Co., 2.0 mi NW Carthage, T29N R31W S30 (SC1/9),

28.iii.1998 (1), cut *ex* dead branch *Celtis tenuifolia* coll. 13.vi.1997; same data except em. 15.iv–2.v.1998 (2) & 1–18.iv.1999 (1); St. Louis Co., Chesterfield Village, Monsanto campus, em. 1–8.iv.2001 (1) *ex* dead branch *Acer saccharum* coll. 1.v.1999; Stoddard Co., Holly Ridge CA, T25N R11E S6 (NW¼), em. 10.iv–30.iv.2002 (5) *ex* dead branch *Salix nigra* cut 8.iv.2001 & coll. 31.iii.2002; Otter Slough CA & NA, T24N R9E S8 (SE¼), em. 1–11.v.2003 (18) *ex* dead branch *S. nigra* coll. 8.vi.2002; Otter Slough CA, Miller Woods NA, T24N R9E S17, em. 1.iv–31.v.1997 (2) *ex* dead branch *Quercus phellos* coll. 16.vi.1996; Stone Co., Ashe Juniper NA, 4.0 mi N Hwy 86 on JJ, NE corner of parcel, T22N R22W S20, em. 10.iv–30.iv.2002 (14) *ex* trunk fire-killed *Quercus velutina* coll. 17.iii.2002; Taney Co., Mincy CA, vic. cpgd., T22N R20W S16 (SE¼), em. 10–20.iv.2002 (1) *ex* dead branch *C. tenuifolia* cut 7.iv.2001 & coll. 15.ix.2001; same data except em. 10.iv–30.iv.2002 (51) *ex* from wood coll. 17.iii.2002; same locality, em. 1–11.v.2003 (1) *ex* dead branch *Cercis canadensis* L. (Fabaceae) coll. 17.iii.2002; Mincy CA, vic. area HQ, T21N R20W S27, em. 10.iv–9.v.2002 (3) *ex* dead branch *Ulmus americana* L. coll. 17.iii.2002; TEXAS, Hidalgo Co., Santa Ana NWR, Trail C nr. Pintail Lake, em. 21–30.vi.2002 (1) *ex* dead branch *Celtis laevigata* coll. 18.x.2001; Jeff Davis Co., Davis Mts. SP, Limpia Canyon PA, em. 10–30.iv.1999 (1) & 23–30.iv.2000 (3) *ex* dead branch *Celtis laevigata* var. *reticulata* coll. 9.vi.1998, R. S. Thoma collr. [TCMC]. The Arizona and Texas records represent substantial western range extensions for the species, previously known only from the eastern U.S. (Giesbert and Chemsak 1997).

Euderes reichei LeConte. Previously recorded larval hosts for this species include *Acacia farnesiana*, *Acer saccharinum*, *Citrus* (Rutaceae), *Diospyros texana*, *Prosopis glandulosa*, *Quercus virginiana*, *Sapindus saponaria* var. *drummondii*, *Zanthoxylum fagara* (L.) Sarg., and an undetermined *Celtis* sp. (Vogt 1949; Manley and French 1976; Hovore *et al.* 1987; MacRae 1994; Giesbert and Chemsak 1997). Additional larval hosts are: MISSOURI, Barry Co., Roaring River CA, vic. shooting range, T22N R27W S36, em. 1–7.v.2001 (1) *ex* dead branch *Diospyros virginiana* coll. 7.iv.2001; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 3–16.v.1998 (30) & 1–16.v.1999 (1) *ex* dead branch *Crataegus viridis* cut 23.iv.1997 & coll. 23.iv.1998; Taney Co., Mincy CA, vic. cpgd., T22N R20W S16 (SE¼), em. 1.v–16.v.2002 (2) *ex* dead branch *Celtis tenuifolia* cut 7.iv.2001 & coll. 17.iii.2002; TEXAS, Bexar Co., San Antonio, 1.0 mi N Jct Loop 1604 & Hwy 281, em. 18.vi–22.vii.2002 (5) *ex* dead branch *Celtis laevigata* coll. 25.x.2001; Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 24.v–23.x.1998 (15) *ex* dead branch *Celtis pallida* coll. 8.x.1997; same locality, em. 30.vi–5.vii.1998 (1) *ex* dead branch *C. laevigata* coll. 8.x.1997; same locality, em. 18.vi–15.x.2002 (14) & 15–30.vi.2003 (1) *ex* dead branch *Parkinsonia aculeata* coll. 17.x.2001; Bentsen-Rio Grande Valley SP, Singing Chaparral Trail, em. 15–21.vi.1998 (1) *ex* dead branch *P. aculeata* coll. 8.x.1997; Santa Ana NWR, vic. Willow Lake, em. 30.vi–23.x.1998 (2) *ex* dead branch *C. laevigata* coll. 9.x.1997; same locality, em. 1.viii–13.x.1998 (5) *ex* dead branch *C. pallida* coll. 9.x.1997; same locality, em. 13.vii–31.x.1998 (12) *ex* dead branch *P. aculeata* coll. 9.x.1997.

Geropa concolor (LeConte). This species has been reared from a variety of host plants (Craighead 1923; Vogt 1949; Linsley 1962; Hovore and Penrose 1982; Hovore *et al.* 1987), to which the following can be added: TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 8–13.ix.1986 (2) *ex* dead branch *Prosopis glandulosa* coll. x.1985; same locality, em. 3–15.ix.2002 (2) *ex* dead branch *Parkinsonia aculeata* coll. 17.x.2001.

Gnaphalodes trachyderoides Thomson. TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 12–22.vii.2002 (1) *ex* dead branch *Celtis pallida* coll. 17.x.2001. Many additional larval hosts have been recorded for this species (Linsley 1962; Hovore and Giesbert 1976; Manley and French 1976; Turnbow and Wappes 1978; Hovore and Penrose 1982; Hovore *et al.* 1987; Linsley and Chemsak 1997).

Haplidus testaceus LeConte. NEW MEXICO, San Juan Co., Pump Canyon, 13S 256589/4084540N UTM, elev. 6,003', em. 15–29.iv.2006 (3) *ex* dead branch *Pinus edulis* Engelm. coll. 24.ii.2006, P. O. Kaufman collr. [& TCMC]. This species has also been recorded breeding in *Pinus contorta* Dougl. *ex* Loud., *P. jeffreyi* Grev. & Balf., *P. monophylla* Torr. & Frém., and *P. ponderosa* P. & C. Lawson (Craighead 1923; Tyson 1970b; Heffern 1998).

Heterachthes quadrimaculatus Haldeman. This species has been reared primarily from *Carya* spp. (LeConte 1880; Gosling 1984a; MacRae 1994), although *Liriodendron tulipifera* L. (Magnoliaceae) and *Quercus* sp. have also been recorded as larval hosts (Champlain *et al.* 1925; Vlasak and Vlasakova 2002). The following larval host has not previously been recorded: MISSOURI, Crawford Co., Blue Spring Creek CA, T39N R2W S5 (SE ¼), em. 1.vi–15.vii.2001 (12) & 1.vi–22.vii.2002 (9) *ex* ½–2" dia. dead branch *Carya laciniosa* (Michx. f.) G. Don coll. 28.iv.2001. Several recent authors have referred to this species by its junior synonym "*H. pallidus* Haldeman" (Sikes 2004; Sikes and Webster 2005; Holland 2006), perhaps because of its treatment as such in Linsley (1963).

Hypexilis pallida Horn. Adults of this species have been collected on *Ulmus crassifolia* (Hovore *et al.* 1978) but reared only from *Salix* sp. (Turnbow and Wappes 1981). The following record confirms the former as a larval host: TEXAS, Santa Ana NWR, Trail C nr. Rio Grande River, em. 3.ix–15.x.2002 (2) *ex* dead branch *Ulmus crassifolia* coll. 18.x.2001.

Knulliana cincta cincta (Drury). Despite its common name of "banded hickory borer," a variety of other larval hosts have been recorded for this subspecies (Riley 1880; Craighead 1923; Knull 1946; Vogt 1949; Dean 1953; Linsley 1962; Kirk 1970; Hovore and Giesbert 1976; Hovore and Penrose 1982; Hovore *et al.* 1987; MacRae 1994). The following plant species can also be added: MISSOURI, Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, em. 24–31.v.1998 (2) *ex* dead trunk/main branch *Quercus palustris* coll. 14.ix.1996; Boone Co., Rock Bridge SP, em. 24–31.v.2001 (1) *ex* fire-killed trunk *Diospyros virginiana* coll. 9.ix.2000; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW ¼), em. 10–20.iv.2002 (3) *ex* dead branch *Quercus phellos* cut 8.iv.2001 & coll. 31.iii.2002; St. Clair Co., Lichen Glade NA, T38N R26W S16 (SC1/9), em. 1.v–14.vi.2003 (2) *ex* dead branch *Quercus stellata* coll. 21.ix.2002; Saline Co., Miami Access at Missouri River, T52N R21W S5 (NE ¼), em. 8–30.vi.2002 (9) *ex* dead sapling *Quercus macrocarpa* Michx. coll. 11.viii.2001.

Knulliana cincta sonorensis (Schaeffer). Hovore and Giesbert (1976) reported rearing this subspecies from two undetermined *Quercus* spp. near Fort Davis, Texas. The following records provide specific host plant names: TEXAS, Jeff Davis Co., Davis Mts. Resort, Limpia Canyon, elev. 5,710', em. 1–31.vii.1995 (1) *ex* 4–6" dia. dead trunk *Quercus pungens* var. *vaseyana* (Buckl.) C. H. Muller coll. 18.vi.1994; Davis Mts. SP, W end of cpgd., em. 1–31.vii.1995 (4) & 1–30.vi.1996 (3) *ex* 8–12" dia. dead trunk *Q. emoryi* coll. 15.v.1995; 11.3 mi W Ft. Davis on Hwy 166 at picnic area, 24.x.2001 (4), cut *ex* dead branch *Q. pungens* var. *vaseyana*; same data except em. 1.v–30.vi.2002 (4) *ex* wood coll. 24.x.2001.

Megacyllene antennata (White). Although known from Texas, this species was not included in a recent inventory of insects from Big Bend NP (Van Pelt 1999). The following record confirms its occurrence there: TEXAS, Brewster Co., **Big Bend NP**, Rio Grande Village, 20.vi.1994, at UV light in riparian mesquite woodland.

Megacyllene comanchei Rice & Morris. Nothing has been recorded for this species since it was described from western Texas in association with *Heterotheca* sp. (Rice and Morris 1992). The following records suggest the species is more widely distributed in the southern Great Plains: KANSAS, Barber Co., 4.0 air mi W & 6.6 air mi N Hardtner (private ranch), 16–20.x.2003 (3), W. Smith collr. [& RAAC]; same locality, 7.x.2005 (2), T. C. MacRae & W. Smith collrs.; Gove Co., Monument Rocks, 14.ix.1988 (1), on *Eriogonum effusum* Nutt. (Polygalaceae), G. A. Salsbury collr. [TCMC]. The Barber Co. specimens were encountered in flight and on foliage of *Mentzelia nuda* (Pursh) Torr. & Gray (Loasaceae) (probably an incidental association) below red clay breaks in mixed shortgrass prairie in the Gypsum Hills region of south-central Kansas. Whether the Gove Co. specimen was on flowers is not known.

Meganoplum imbelle (LeConte). CALIFORNIA, El Dorado Co., Folsom SRA, 1.2 mi N Jct Green Valley & Salmon Falls Roads, em. 17–31.vii.1995 (1) & 1.vii–30.ix.1996 (4) *ex* dead branch *Quercus lobata* Née coll. iv.1995. *Quercus agrifolia* is the only previously recorded larval host (Linsley 1962).

Methia necydalea (Fabricius). MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35, em. 1–7.vi.2002 (1) *ex* dead branch *Quercus phellos* cut 8.iv.2001 & coll. 31.iii.2002. This species is more commonly encountered in the southeastern U.S. (Linsley 1962), where it has been reared from a variety of woody plants (Craighead 1923; Turnbow and Wappes 1978, 1981; Turnbow and Hovore 1979; Hovore *et al.* 1987).

Molorchus bimaculatus bimaculatus Say. This species has been recorded breeding in several plant species (Beutenmüller 1896; Craighead 1923; Knull 1946; Gosling 1984a; MacRae 1994), and adults frequent a tremendous variety of flowers (Gosling 1984b; MacRae 1994). Additional larval and flower hosts are: MISSOURI, Barry Co., Roaring River CA, vic. shooting range, T22N R27W S36, em. 10–20.iv.2002 (1) *ex* dead branch *Carya alba* coll. 7.iv.2001; same locality, em. 10–20.iv.2002 (1) *ex* dead branch *Quercus muhlenbergii* coll. 7.iv.2001; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), 23.iv.1997 (3), on flower *Crataegus viridis*; same locality, em. 24–31.v.2001 (3) *ex* dead branch *Rhus glabra* coll. 8.iv.2001; Carter Co., Peck Ranch CA, Nordic Hollow, T27N R2W S17, em. 21–30.iv.2002 (1) *ex* dead branch *Cercis canadensis* cut 8.iv.2001 & coll. 31.iii.2002; same locality, em. 1–7.v.2002 (1) *ex* dead branch *Q. muhlenbergii* cut 8.iv.2001 & coll. 31.iii.2002; Iron Co., Taum Sauk Mountain SP, vic. cpgd., em. 1–26.iv.1998 (1) *ex* lower trunk small dead *Carya ovata* coll. 2.viii.1996; St. Louis Co. Clarkson Valley, Jct Orville & Shepard Roads, em. 3–23.v.1998 (3) *ex* dead branch *Juglans nigra* coll. 28.iii.1998; Taney Co., Mincy CA, vic. cpgd., T22N R20W S16 (SE¼), em. 8–16.v.2002 (1) *ex* dead branch *Celtis tenuifolia* cut 7.iv.2001 & coll. 17.iii.2002.

Molorchus bimaculatus celti Knull. Knull (1930) described this subspecies from specimens reared from *Celtis occidentalis* and *Cercis canadensis* in Pennsylvania, noting their larger size, longer antennae, longer more cylindrical pronotum, more broadly rounded elytra, finer pronotal and elytral punctuation, and longer, denser pubescence (see Yanega 1996, fig. 177). Specimens reared from *C. occidentalis* matching Knull's description confirm the existence of this subspecies in:

MISSOURI, St. Louis Co., Chesterfield Village, Monsanto campus, em. 1.iv–13.v.2000 (6) *ex* dead branch coll. 1.v.1999.

Molorchus bimaculatus corni Haldeman. Haldeman (1847) described this as a species, noting its dark integument with rufous prothorax (see Yanega 1996, fig. 178). Leng (1886) listed it as a variety of *M. bimaculatus*, and Linsley (1963) gave it subspecific status under that species. It has been reported on flowers of *Cornus* sp. (Cornaceae) and *Spiraea* sp. (Rosaceae) (Linsley 1963; Turnbow and Franklin 1980; Schiefer 1998a), but the following record represents the first reported larval host: MISSOURI, Stoddard Co., Holly Ridge CA, W parcel, T26N R10E S36 (SE¼), 14.x.2000 (2), cut *ex* dead branch *Rhus glabra*.

Molorchus bimaculatus semiustus (Newman). Newman (1840) described this as a species, but Horn (1885) listed it as a variety of *M. bimaculatus* (Say). Blatchley (1919) considered it a good species, noting its more uniform rufotestaceous coloration and less elongate, less rounded, more depressed and more uniformly punctate prothorax. Linsley (1963) also noted these characters but returned it to subspecific status under *M. bimaculatus*. It has been recorded from across the southeastern U.S. (Linsley 1963), with the following records extending its known geographical range north to: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 10.iv–16.v.1999 (70) & 1–22.iv.2000 (23) *ex* dead branch *Crataegus viridis* cut 23.iv.1997 & coll. 3.v.1998; same data except em. 13.iv–31.v.2003 (35) *ex* wood coll. 21.iii.2003; same locality, em. 1–30.iv.2000 (13) *ex* dead branch *Carya illinoensis* coll. 3.v.1998; St. Louis Co., Chesterfield Village, Monsanto campus, em. 1–22.iv.2000 (1) *ex* dead vine *Vitis* sp. (Vitaceae) coll. 4.v.1998; Taney Co., Henning CA, White River Balds NA, T23N R22W S27 (NW¼), em. 18–30.iv.1999 (1) *ex* dead vine *Vitis* sp. cut 10.iv.1998 & coll. 10.iv.1999. These represent the first confirmed larval hosts for the species, although Tyson (1970a) reported it emerging from unidentified wood (prob. *Celtis* sp.) in Texas. It has also been collected on flowers of *Cornus* sp. and *Spiraea* sp. in Georgia and Mississippi (Turnbow and Franklin 1980; Schiefer 1998a). Nominotypical *M. bimaculatus* has also been collected at the Big Cane locality on flowers of *Crataegus viridis* and emerging from dead branches of *Betula nigra*, a preferred larval host in Missouri. The characters noted above that distinguish this subspecies from *M. bimaculatus* are quite constant in the large series of specimens on hand.

Nathrius brevipennis (Mulsant). This polyphagous native of southern Europe has been reared in North America from *Ficus* (Moraceae), *Juglans californica*, *J. regia* and *Quercus agrifolia* (Linsley 1933, 1963). Another larval host is represented by the following: CALIFORNIA, Amador Co., 2 mi S Ione on Hwy 124, em. 1–30.vi.1996 (10) *ex* dead twig *Quercus wislizeni* A. DC. coll. iv.1995.

Neoclytus acuminatus acuminatus (Fabricius). The “redheaded ash borer” is, in reality, one of the most polyphagous cerambycid species in eastern North America, having been recorded breeding in at least 35 woody plant genera (Riley 1880; Beutenmüller 1896; Craighead 1923; Knull 1930; Solomon 1982; Gosling 1984a; Rice 1985; Rice *et al.* 1985; MacRae 1994). Additional specific larval hosts are: MISSOURI, Barry Co., Roaring River CA, T22N R27W S36, em. 1.v–3.ix.2001 (6) *ex* dead branch *Fraxinus quadrangulata* coll. 7.iv.2001; Butler Co., Allred Lake NA, T22N R6E S28 (SE¼), em. 1–11.v.1997 (1) *ex* dead sapling *Carya illinoensis* coll. 14.ix.1996; Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 1–31.vii.1996 (3) *ex* dead branch *Quercus phellos* coll. 23.iv.1996; same data except em. 24–31.v.2002 (1) *ex* wood cut 8.iv.2001 & coll.

31.iii.2002; same locality, em. 24.v–24.vi.2002 (2) *ex* dead branch *Crataegus viridis* cut 8.iv.2001 & coll. 31.iii.2002; Carter Co., Peck Ranch CA, Nordic Hollow, T27N R2W S17, em. 17.v–7.vi.2002 (3) *ex* dead branch *Quercus muhlenbergii* cut 8.iv.2001 & coll. 31.iii.2002; Clark Co., Rose Pond CA, T64N R6W S13 (SW ¼), em. 12.v–14.vi.2003 (4) *ex* dead branch *Salix nigra* coll. 5.x.2002; Iron Co., Russell Mountain Trailhead, T33N R3E S3 (SE ¼)–10 (NE ¼), em. 17.vii–19.ix.1997 (3) *ex* dead branch *Carya ovata* coll. 3.viii.1996; Saline Co., Miami Access at Missouri River, T52N R21W S5 (NE ¼), em. 10.iv–15.ix.2002 (30) *ex* dead sapling *Quercus macrocarpa* coll. 11.viii.2001; Shannon Co., Ozark NSR, Round Spring RA, Middle Access, vic. cpd., T30N R4W S20 (NW ¼), em. 1–15.vii.2003 (1) *ex* dead branch *Salix exigua* Nutt. coll. 1.v.2003; Stoddard Co., Holly Ridge CA, T25N R11E S6 (NW ¼), em. 6.vii–23.viii.1998 (3) *ex* dead branch *Prunus serotina* coll. 31.viii.1997; Holly Ridge CA, T26N R11E S31 (SW ¼), em. 16.viii–18.ix.2000 (1) & 16–22.vi.2001 (1) *ex* dead branch *Quercus velutina* coll. 20.v.2000; Otter Slough CA, Miller Woods NA, T24N R9E S17, em. 1–31.viii.1996 (1) & 1.vii–31.viii.1997 (6) *ex* dead branch *Q. phellos* coll. 16.vi.1996; Taney Co., Mincy CA, vic. cpd., T22N R20W S16 (SE ¼), em. 1.v–16.v.2002 (2) *ex* dead branch *Celtis tenuifolia* cut 7.iv.2001 & coll. 17.iii.2002; Warren Co., Village of Innsbrook, 1.0 mi W Hwy F, T46N R1W S7, em. 6.viii–3.ix.2001 (1) *ex* 1–3" dia. dead trunk/branch *Quercus alba* L. coll. 22.iv.2000.

Neoclytus acuminatus hesperus Linsley. A variety of larval hosts have been recorded for this south Texas subspecies (Linsley and Martin 1933; Manley and French 1976; Turnbow and Wappes 1978, 1981; Boldt and Robbins 1987; Hovore *et al.* 1987), to which the following can be added: TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley St. Pk., Rio Grande River Hiking Trail, em. 18.vii–2.x.1999 (2) *ex* dead branch *Celtis pallida* coll. 7.x.1997; Starr Co., Falcon Lake SP, vic. park headquarters, em. 24.viii–31.x.1998 (24) & 10.iv–10.vi.1999 (10) *ex* dead branch *Acacia rigidula* coll. 7.x.1997; Zapata Co., Falcon Lake SP, along Nature Trail, em. 22.vi–31.x.1998 (12) & 1–15.viii.1999 (1) *ex* dead branch *A. rigidula* coll. 7.x.1997.

Neoclytus caprea (Say). This species is most commonly associated with *Fraxinus* spp. (Riley 1880; Craighead 1923; MacRae 1994) but has also been reared from several other plant genera (Cope 1984; Hovore 1984; Lingafelter and Horner 1993). Additional larval hosts are: ARIZONA, Cochise Co., Huachuca Mts., Copper Canyon, 0.25 mi NE Road 61 on 103, elev. 6,000', em. 1.v–10.vi.1999 (32) & 1.iv–23.v.2000 (150) *ex* dead branch *Quercus arizonica* coll. 6.viii.1998; MISSOURI, Taney Co., Mincy CA, vic. cpd., T22N R20W S16 (SE ¼), em. 10–30.iv.2002 (2) *ex* dead branch *Diospyros virginiana* cut 7.iv.2001 & coll. 15.ix.2001; TEXAS, Brewster Co., Big Bend NP, Chisos Mts. Basin, lower Window Trail, em. 10–20.iv.2002 (1) *ex* dead branch *Celtis laevigata* var. *reticulata* coll. 22.x.2001; Jeff Davis Co., Davis Mts. Resort, Limpia Canyon, elev. 5,700', em. 1.iii–8.iv.1995 (29) *ex* dead branch *Quercus pungens* var. *vaseyana* coll. 18.vi.1994; Davis Mts. SP, W end cpd., elev. 5,700, em. 1–31.v.1996 (1) *ex* dead branch *Quercus emoryi* coll. 18.vi.1994; Davis Mts. SP, Limpia Canyon PA, 24.x.2001 (3), cut *ex* dead branch *C. laevigata* var. *reticulata*; same data except em. 10–20.iv.2002 (16) & 21–30.iv.2002 (1) *ex* wood coll. 24.x.2001.

Neoclytus irroratus (LeConte). TEXAS, Brewster Co., Big Bend NP, Chisos Mts. Basin, vic. Basin Lodge, elev. 5,500', 23.vi.1994 (3), in fermenting bait trap; Jeff Davis Co., Davis Mts. Resort, Limpia Canyon, elev. 5,700', 18.vi.1994 (1), on dead branch *Quercus emoryi*. Linsley (1964) associated this species with *Quercus agrifolia* but did not specify whether this was a larval or adult association.

Neoclytus jouteli jouteli Davis. Rice (1982) reported this species from Missouri from a specimen reared from *Carya* sp. but did not place it to subspecies. The following records confirm the occurrence of this subspecies in the state: MISSOURI, Shannon Co., 0.4 mi N Hwy NN on H, T28N R3W S14, 10.vii.1999 (1), on dead branch *Quercus coccinea*; Stoddard Co., Holly Ridge CA, W parcel, T26N R11E S31, em. 1.vii–18.ix.2000 (2) *ex* dead branch *Quercus velutina* coll. 20.v.2000. The specimens agree well with the characters given by Linsley (1964) for the nominate subspecies, for which *Q. coccinea* was listed as a host.

Neoclytus leucozonas infans Casey. This subspecies is known from the Pacific Northwest southward into the Northern Coastal Range of California (Linsley 1964). The following record is the first report of this species from the Sierra Nevada and apparently represents a southeastern range extension: CALIFORNIA, Amador Co., 1.9 mi S Hwy 88, Ellis Road, 22.viii.1993 (1), on dead branch *Abies* sp. (Pinaceae). Cope (1984) listed *Pinus radiata* D. Don as a larval host, while Linsley (1964) associated the species with *Pseudotsuga menziesii*.

Neoclytus mucronatus mucronatus (Fabricius). This species is usually associated with *Carya* (Beutenmüller 1896; Craighead 1923; Linsley 1964). Linsley (1957) mentioned specimens “living in *Celtis*” and “at roots of persimmon” in Texas, and Perry (1975) reported specimens reared from *Pinus virginiana* P. Mill., the latter possibly representing an “overflow” host (Hespenheide 1969). The following records confirm *Celtis* and *Diospyros* as larval hosts and document an additional *Carya* larval host: MISSOURI, St. Charles Co., 0.2 mi S Defiance, 23.vi.2001 (1), cut *ex* dead branch *Carya illinoensis*; Stoddard Co., Otter Slough CA, vic. area HQ, T24N R9E S17, em. 8.vi–13.ix.1998 (29) & 5.vii–6.ix.1999 (10) *ex* ½–2" dia. branch fire-killed *Diospyros virginiana* coll. 16.viii.1997; TEXAS, Bexar Co., Jct Loop 1604 & Potranco Road, em. 22.vi–31.x.1998 (10) & 18.vii–23.viii.1999 (6) *ex* 14" dia. lower trunk standing dead *Celtis laevigata* coll. 6.x.1997. The Bexar Co. specimens show some influence of subspecies *N. mucronatus vogti* Linsley in their elytral markings, as noted by Linsley (1957) for specimens from this locality.

Neoclytus scutellaris (Olivier). Craighead (1923) reported larvae in *Quercus alba*, but Knoll (1946) listed *Carya*, *Ulmus*, and *Vitis* also as larval hosts. The following records suggest a strong preference for species of *Quercus*: MISSOURI, Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, 15.vi.1996 (2), on dead branch *Quercus lyrata* Walt.; same locality, em. 1.vii–23.viii.1997 (15) *ex* dead branch *Quercus palustris* coll. 14.ix.1996; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 1.vi–31.viii.1996 (22) *ex* dead branch *Quercus phellos* coll. 23.iv.1996; Carter Co., Peck Ranch CA, Stegall Mountain NA, T28N R2W S19 (NE¼)–29 (SW¼), em. 1–15.vii.2001 (1) & 1–11.vii.2002 (1) *ex* ½–2" dia. lower trunk fire-killed *Quercus velutina* coll. 14.iv.2001; Ripley Co., Mark Twain NF, Bald Hill Glade NA, 4.6 mi SW Hwy V on Forest Roads 3213/3194/3194A, T23N R1W S31, em. 1.viii–30.ix.1996 (4) & 17–31.vii.1997 (2) *ex* 4–6" dia. trunk fire-killed *Quercus stellata* coll. 6.vii.1996.

Neocompsa exclamatoris (Thomson). TEXAS, Hidalgo Co., Santa Ana NWR, Trail C nr. Pintail Lake, em. 1–15.vi.2003 (1) *ex* dead branch *Acacia farnesiana* coll. 18.x.2001; same locality, em. 1–16.vii.2003 (2) *ex* old *Oncideres*-girdled branch *A. farnesiana* coll. 18.x.2001. Previously recorded larval hosts include *Mimosa* sp. (Fabaceae), *Leucaena pulverulenta* (Schlecht.) Benth. (Fabaceae), and *Zanthoxylum fagara* (Craighead 1923; Hovore and Penrose 1982; Hovore *et al.*

1987). Linsley and Chemsak (1997) list *Acacia* as a host, but this apparently refers to the adult association given by Linsley and Martin (1933).

Obrium maculatum (Olivier). Numerous larval hosts have been recorded for this rather polyphagous species (LeConte 1880; Vogt 1949; Kirk 1969; Hovore and Penrose 1982; Manley and French 1976; Rice 1985; Hovore *et al.* 1987; Chemsak and Noguera 1993; MacRae 1994). Additional larval hosts are: MISSOURI, Butler Co., Allred Lake NA, T22N R6E S28 (SE ¼), em. 1–19.ix.1997 (1) *ex* dead sapling *Carya illinoensis* coll. 14.ix.1996; Big Cane CA, vic. W parking lot, T22N R5E S35 (NW ¼), em. 6.vii–23.viii.1998 (8), 1.vi–31.vii.1999 (12) & 14.v–15.vii.2000 (4) *ex* dead branch *Crataegus viridis* cut 23.iv.1997 & coll. 3.v.1998; same locality, em. 22.vi–23.viii.1998 (8), 1.vi–8.ix.1999 (8) & 24.v–15.vii.2000 (11) *ex* dead branch *C. illinoensis* cut 23.iv.1997 & coll. 3.v.1998; same locality em. 18–30.vi.2002 (4) *ex* dead branch *Quercus phellos* cut 8.iv.2001 & coll. 31.iii.2002; Ste. Genevieve Co., Hawn SP, Pickle Creek Cpgd., em. 1–30.vi.1995 *ex* dead branch *Betula nigra* coll. xii.1994; Stoddard Co., Holly Ridge CA, T25N R11E S6 (NW ¼), em. 1.vi–10.viii.1998 (92) & 1.vi–31.vii.1999 (38) *ex* dead branch *Prunus serotina* coll. 31.viii.1997; same locality, em. 6.vii–10.viii.1998 (3) *ex* dead branch *Q. phellos* coll. 31.viii.1997; same locality, em. 25–30.vi.2002 (1) *ex* dead branch *Salix nigra* cut 8.iv.2001 & coll. 31.iii.2002; TEXAS, Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 1.viii–15.x.2002 (4) *ex* dead branch *Celtis pallida* coll. 17.x.2001; Santa Ana NWR, vic. Willow Lake, em. 30.vi–23.x.1998 (19) *ex* dead branch *C. pallida* coll. 9.x.2001; Jeff Davis Co., Davis Mts. SP, Limpia Canyon PA, em. 1.vii–15.x.2002 (19) & 15.vi–31.x.2003 (103) *ex* dead branch *Celtis laevigata* var. *reticulata* coll. 24.x.2001; Santa Ana NWR, vic. Willow Lake, em. 30.vi–23.x.1998 (19) *ex* dead branch *C. pallida* coll. 9.x.1997.

Orwellion gibbulum arizonense (Casey). ARIZONA, Cochise Co., Chiricahua Mts., Cave Creek Canyon, vic. Sunny Flat Cpgd., elev. 5,030', em. 1–15.viii.1999 (2) *ex* dead branch *Quercus arizonica* coll. 9.viii.1998; Chiricahua Mts., 9.9 mi NW Portal on Road 42D, elev. 6,700', em. 12–20.vi.2000 (1) *ex* *Phoradendron villosum* (Nutt.) Nutt. (Viscaceae) infested dead branch *Q. arizonica* coll. 9.viii.1998. Linsley (1963) recorded *Populus* (Salicaceae), *Quercus emoryi*, and *Salix* as larval hosts.

Parelaphidion aspersum (Haldeman). MISSOURI, Butler Co., Big Cane CA, T22N R5E S35 (NE ¼), em. 22.vi–31.vii.1998 (4) *ex* 3–6" dead trunk *Betula nigra* coll. 23.iv.1997; Wayne Co., Sam A. Baker SP, ~1 mi down Mudlick Trail, T30N R5E S32, em. 6–12.vii.1998 (1) & 5.vii–26.viii.1999 (4) *ex* 6–8" dia. slightly decayed trunk standing dead *Quercus velutina* coll. 6.vii.1997; TEXAS, Bexar Co., Jct Loop 1604 & Potranco Road, em. 18–31.vii.1999 (4) *ex* 14" dia. lower trunk standing dead *Celtis laevigata* coll. 6.x.1997. Craighead (1923) and Linsley (1963) recorded the species breeding in *Carya*.

Parelaphidion incertum (Newman). Although recorded from eastern and south Texas, there are no specific records of this eastern U.S. species in the western part of the state: TEXAS, Jeff Davis Co., Davis Mts. SP, 13S 602470/3385420N UTM, 5.vii.2005 (1), P. Kaufman collr. The antennae of this female specimen slightly surpass the second abdominal segment but do not approach the length of the body as in *P. aspersum*.

Phymatodes varius (Fabricius). This species appears to prefer *Quercus* spp. for larval development (Riley 1880; Beutenmüller 1896; Craighead 1923; Linsley 1964; MacRae 1994; Vlasak and Vlasakova 2002), although *Carya* and *Vitis* have also been reported as larval hosts (Linsley 1964; Hovore 1984). Additional

Quercus larval hosts are: ARIZONA, Cochise Co., Chiricahua Mts., 12.3 mi NW Portal on Road 42, Onion Saddle, elev. 7,600', em. 1–16.v.1999 (1) *ex* dead branch *Quercus hypoleucoides* coll. 4.viii.1998; Chiricahua Mts., Cave Creek Canyon, vic. Sunny Flat Cpgd., elev. 5,030', em. 17–31.v.1999 (1) *ex* dead branch *Q. hypoleucoides* coll. 4.viii.1998; Huachuca Mts., Copper Canyon, 0.25 mi NE Road 61 on 103, elev. 6,000', em. 1.v–10.vi.1999 (32) & 1.iv–23.v.2000 (150) *ex* dead branch *Quercus arizonica* coll. 6.viii.1998; MISSOURI, St. Clair Co., Lichen Glade NA, T38N R26W S16 (SC1/9), em. 13.iv–31.v.2003 (14) *ex* dead branch *Quercus stellata* coll. 21.ix.2002; TEXAS, Jeff Davis Co., Davis Mts. Resort, 4.6 mi N Hwy 116, elev. 5,800', em. 1–30.iv.1995 (4) & 1–31.v.1996 (10) *ex* dead branch *Quercus pungens* var. *vaseyana* coll. 18.vi.1994; Davis Mts., 11.3 mi W Ft. Davis, Hwy 166 picnic area, em. 8–16.v.2002 (2) *ex* dead branch *Q. pungens* var. *vaseyana* coll. 24.x.2001.

Placosternus difficilis (Chevrolat). A variety of larval hosts have been reported for this species (Vogt 1949; Manley and French 1976; Hovore and Penrose 1982; Chemsak and Noguera 1993), to which the following can be added: TEXAS, Starr Co., Falcon Lake SP, vic. park headquarters, em. 15–31.x.1998 (1) *ex* dead branch *Acacia rigidula* coll. 7.x.1997; Zapata Co., Falcon Lake SP, along Nature Trail, em. 14.ix–23.x.1998 (1) *ex* dead branch *A. rigidula* coll. 7.x.1997.

Poecilobrium chalybaeum (LeConte). NEW MEXICO, San Juan Co., Pump Canyon, 13S 256589/4084540N UTM, elev. 6,003', em. 15–29.iv.2006 (1) *ex* dead branch *Cercocarpus montanus* Raf. (Rosaceae) coll. 24.ii.2006, P. O. Kaufman collr. [TCMC]. Hovore and Giesbert (1976) recorded this species on *Cercocarpus* sp. flowers, but this is the first record of it utilizing the plant as a larval host. Linsley (1963) also recorded several other plant genera as hosts but did not specify whether these were based on larval or adult associations.

Pysyrassa pertenuis (Casey). FLORIDA, Collier Co., Collier-Seminole SP, vic. boat ramp, em. 3–23.v.1998 (2) *ex* freeze-killed branch *Conocarpus erectus* L. (Combretaceae) coll. 1.iii.1998. Linsley (1963) listed *Carya*, *Magnolia grandiflora* L. (Magnoliaceae), and *Prunus* as hosts for this species, although it is not clear whether these refer to larval or adult associations.

Purpuricenus linsleyi Chemsak. The holotype depository was erroneously cited as the U.S. National Museum in a recent review of the genus (MacRae 2000). This was later corrected to the Museum of Comparative Zoology by MacRae (2001); however, the error originated in MacRae (2000) and not in Chemsak (1961) as stated in the correction.

Purpuricenus paraxillaris MacRae. When this species was described (MacRae 2000), specimens at the southwestern limit of its distribution (near San Antonio, Texas) were excluded from the type series because of their more extensively developed elytral maculae, resembling those of *P. linsleyi*. The possibility was raised that this population might be subspecifically distinct from more eastern populations; however, examination of additional specimens from this area (TEXAS, Bexar Co., Crestwood Acres, 22.v–4.vi.2002 (12), fermenting bait trap in post oak savannah, D. W. Sundberg collr. [& TCMC]) shows macular development to be variable, ranging from “*linsleyi*-like” to typical of *P. paraxillaris* from more eastern localities. This argues against according subspecific status to the Bexar Co. population. MacRae (2000) recorded several *Quercus* spp. and *Castanea dentatus* (Marsh.) Borkh. as larval hosts for this species. An additional larval host and distributional record is: GEORGIA, Rabun Co., 10 mi E Clayton nr. Dickenson Branch, Sec. 7 Dist. 1, em. 14.v.1964 (1) *ex* 2" dia. girdled branch *Quercus velutina* coll. 21.viii.1963, L. A. Cambre collr.

Plectromerus dentipes (Olivier). A variety of angiospermous plants have been recorded as larval hosts for this species (Linsley 1963; Turnbow and Hovore 1979; Rice 1985); however, the following appears to be the first recorded gymnospermous larval host: GEORGIA, Clinch Co., 6.5 mi NE Edith on Hwy 177, em. 22.vi–23.x.1998 (5) ex 6" dia. lower trunk standing dead *Taxodium distichum* coll. 27.i.1998.

Plinthocoelium suaveolens suaveolens (Linnaeus). This beautiful species has been associated primarily with *Sideroxylon* [= *Bumelia*] spp. (Sapotaceae) (Riley 1880; Beutenmüller 1896; Turnbow and Hovore 1979). In Missouri, adults have recently been found to occur commonly in dolomite glades in the southern part of the state (Barry, Ripley & Taney Cos.), where they perch on the trunks of *Sideroxylon lanuginosum* Michx. ssp. *lanuginosum* and are attracted to fermenting bait traps placed in these habitats during late June and early July. An interesting record related to the sap-feeding behavior of adults (MacRae 1994) is: MISSOURI, St. Louis Co., Wildwood, 1 mi N Jct I-44 & Hwy 109, Chestnut Bluff Road, 4.ix.1998 (2), feeding on sap flows from fresh-cut stumps *Carya* sp., T. Gaume collr. [TCMC, courtesy of M. S. Arduser].

Rhopalophora angustata Schaeffer. Adults have been reported feeding on flowers of *Baccharis neglecta*, *Clematis* (Ranunculaceae), and *Monarda* (Lamiaceae) (Vogt 1949; Hovore *et al.* 1987). Additional flower hosts are: TEXAS, San Patricio Co., Lake Corpus Christi SP, 8.x.1985 (6), on flowers *Eupatorium incarnatum* Walt. (Asteraceae) & *Serjania brachycarpa* Gray (Sapindaceae).

Rhopalophora bicolorella Knull. Adults have been reported feeding on flowers of *Acacia*, *Buddleja* (Buddlejaceae), *Sideroxylon lanuginosa*, and *Melilotus officinalis* (L.) Lam. [= *alba* L.] (Fabaceae) (Linsley *et al.* 1961; Giesbert and Chemsak 1993). Additional flower hosts are: ARIZONA, Cochise Co., Chiricahua Mts., 13.8 mi NW Portal on Road 42D, elev. 8,040', 4.viii.1998 (2), on flower *Ceanothus* sp. (Rhamnaceae); Huachuca Mts., Road 61 between Copper Canyon & Montezuma Pass, elev. 6,500', 6.viii.1998 (2), on flower *Acacia angustissima* (P. Mill.) Kuntze.

Rhopalophora cupricollis Guérin-Méneville. Adults have been reported feeding on a variety of flowers (Linsley and Martin 1933; Vogt 1949; Hovore *et al.* 1987; Chemsak and Noguera 1993; Toledo *et al.* 2002). Additional flower hosts are: TEXAS, San Patricio Co., Lake Corpus Christi SP, 8.x.1985 (3), on flower *Acacia greggii* Gray; Zapata Co., Falcon Lake SP, along N portion of Nature Trail, 20.x.2001 (2), on flower *Sideroxylon celastrinum* (Kunth) T. D. Pennington.

Rhopalophora meeskei Casey. Hovore and Giesbert (1976) reported adults on *Pinus*, and this plant genus is confirmed as a larval host by the following records: TEXAS, Brewster Co., Big Bend NP, Chisos Mts. Basin, Lost Mine Trail, em. 24.vi–15.vii.2003 (7) ex dead branch *Pinus cembroides* coll. 24.vi.2003; Big Bend NP, Chisos Mts., Green Gulch, 3.7 mi S on Basin Road, em. 11.v–10.vii.2004 (74) ex dead branch *P. cembroides* coll. 13.iv.2004; Jeff Davis Co., Davis Mts. Resort, Limpia Canyon at Yellow Knife Trail, elev. 5,650', em. 12–31.vii.2002 (4) ex dead branch *P. cembroides* coll. 24.x.2001. Adults have also been reported feeding on variety of flowers (Linsley *et al.* 1961), with additional flower hosts as follows: ARIZONA, Cochise Co., Chiricahua Mts., 15.1 mi NW Portal on Road 42D, vic. Rustler Park Cpgd., elev. 8,290', 4.viii.1998 (16), on flowers *Holidiscus dumosus* (Nutt. ex Hook.) Heller (Rosaceae) & *Achillea millefolium* L. (Asteraceae); Chiricahua Mts., 13.8 mi NW Portal on Road 42D, elev. 8,040', 4.viii.1998 (12), on flower *Ceanothus* sp.; Huachuca Mts., Miller Canyon, 1.9–2.5 mi W Hwy 92, elev. 5,550–5,780', 5.viii.1998 (2), on flower *Mimosa grahamii* Gray.

Rhopalophora rugicollis rugicollis (LeConte). Adults have been reared from a variety of plants (Tyson 1970a; Turnbow and Wappes 1978; Cope 1984; Rice 1985; Hovore *et al.* 1987). An additional larval host is: TEXAS, Starr Co., Falcon Heights, Jct Spur 2098, 20.x.2001 (1), cut *ex* dead branch *Eysenhardtia texana* Scheele (Fabaceae).

Smodicum cucujiforme (Say). To the variety of larval hosts recorded for this species (Riley 1880; Beutenmüller 1896; Craighead 1923; Knull 1946; Linsley 1962), the following can be added: MISSOURI, Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, em. 22.vi–31.vii.1998 (10) *ex* 12–14" dia. lower trunk standing dead *Ulmus rubra* coll. 4.vii.1997; Carter Co., Peck Ranch CA, Stegall Mountain NA, T28N R2W S19 (NE ¼), em. 1–31.vii.2002 (4) *ex* 3–5" dia. lower trunk fire-killed *Quercus velutina* coll. 14.iv.2001.

Stenosphenus dolosus Horn. Adults of this species have been reared from *Acacia farnesiana*, *Leucaena pulverulenta*, and *Prosopis glandulosa* (Hovore and Giesbert 1976; Hovore and Penrose 1982; Hovore *et al.* 1987). An additional larval host is: TEXAS, Starr Co., Falcon Lake SP, vic. park headquarters, em. 6.vii–31.x.1998 (9) *ex* dead branch *Acacia rigidula* coll. 7.x.1997; Zapata Co., Falcon Lake SP, along N portion of Nature Trail, em. 15.vi–23.x.1998 (8) *ex* dead branch *A. rigidula* coll. 7.x.1997; same data except em. 15.vi–31.vii.2003 (2) *ex* wood coll. 20.x.2001. Adults have also been reported from a variety of flowers (Vogt 1949; Boldt and Robbins 1987, 1990; Hovore *et al.* 1987), to which the following can be added: TEXAS, Zapata Co., Falcon Lake SP, along N portion of Nature Trail, 7.x.1997 (10), on flower *Eysenhardtia texana*; same locality, 20.x.2001 (12), on flower *Sideroxylon celastrinum*.

Stenosphenus lugens LeConte. Adults have been recorded from a variety of flowers (Vogt 1949; Hovore *et al.* 1987). An additional flower host is: TEXAS, Cameron Co., Brownsville, Jct Hwys 4 & 511, 19.x.2001 (1), on flower *Sideroxylon celastrinum*.

Stenosphenus notatus (Olivier). This species has been reared almost exclusively from *Carya* spp. (Linsley 1963; Bayer and Shenefelt 1969; Gosling 1984a; MacRae 1994), although Linsley (1963) did record *Celtis* as a larval host. Additional *Carya* larval hosts are: MISSOURI, Butler Co., Big Cane CA, T22N R5E S35 (NE ¼), em. *ex* larva coll. 21.iii.2003 (1) in cut log *Carya aquatica* (Michx. f.) Nutt.; Crawford Co., Blue Spring Creek CA, T39N R2W S5 (SE ¼), em. 10–30.iv.2002 (3) *ex* ½–2" dia. dead branch *Carya laciniosa* coll. 28.iv.2001.

Styloxus fulleri fulleri (Horn). TEXAS, Val Verde Co., 11.6 mi W Comstock on Hwy 90 at Pecos River, 21.x.2001 (1), cut *ex* dead branch *Celtis laevigata* var. *reticulata*. This apparently represents the first recorded host association for this species.

Tessaropa tenuipes (Haldeman). Only one Missouri specimen was recorded by MacRae (1994), thus the following second record from the state is noteworthy: MISSOURI, Franklin Co., 2.5 mi SW Krakow, T43N R2W S13 (SW ¼ of NW ¼), 6.iv.2000 (1), in flight in upland oak/hickory forest, N. J. Holmberg collr. [TCMC].

Tilloclytus geminatus (Haldeman). This species has been recorded sporadically from across the eastern U.S., where it has been reared from a variety of woody plants (LeConte 1880; Craighead 1923; Perry 1975; Vlasak and Vlasakova 2002). The following records document additional larval hosts and an additional state occurrence: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW ¼), em. 3–16.v.1998 (4) *ex* dead branch *Betula nigra* coll. 23.iv.1997; same locality, em. 13.iv–31.v.2003 (9) *ex* dead branch *Crataegus viridis*

coll. 21.iii.2003; Big Cane CA, vic. SE parking lot, T22N R5E S36 (NE¼), em. 1–10.v.2004 (1) *ex* dead branch *Quercus bicolor* Willd. coll. 21.iii.2004; Taney Co., Mincy CA, vic. area HQ, T21N R20W S27, em. 10–16.v.2002 (1) *ex* dead branch *Prunus americana* Marsh. cut 7.iv.2001 & coll. 17.iii.2002; Mincy CA, vic. cpgd., T22N R20W S16 (SE¼), em. 24–31.v.2002 (1) *ex* dead branch *Celtis tenuifolia* cut 7.iv.2001 & coll. 17.iii.2002.

Tragidion coquus (Linnaeus). This attractive species has been recorded on a variety of flowers (Hovore and Giesbert 1976; Hovore *et al.* 1987; Boldt and Robbins 1987; Lingafelter and Horner 1993; MacRae 1994), to which the following can be added: MISSOURI, Ripley Co., Mark Twain NF, Bald Hill Glade NA, 4.6 mi SW Hwy V on Forest Roads 3213/3194/3194A, T23N R1W S31, 16.ix.2001 (1), on flower *Liatris sp.* (Asteraceae).

Xylotrechus colonus (Fabricius). Despite its common name of “rustic oak borer,” this polyphagous species has been reared from a variety of both angiospermous and gymnospermous plant genera (Riley 1880; Beutenmüller 1896; Craighead 1923; Champlain *et al.* 1925; Linsley 1964; Kirk 1970; Perry 1975; Gosling 1984a; MacRae 1994; Vlasak and Vlasakova 2002). Additional specific larval hosts are: MISSOURI, Barry Co., Mincy CA, along Fox Creek, em. 1.v–30.vi.2001 (20) *ex* 5” dia. dead branch *Quercus muhlenbergii* coll. 7.iv.2001; Roaring River CA, T22N R27W S36, em. 8–15.v.2001 (2) *ex* dead branch *Q. muhlenbergii* coll. 7.iv.2001; Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, em. 12.vi–31.vii.1997 (4) *ex* dead branch *Quercus palustris* coll. 14.ix.1996; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 24–31.viii.1997 (1), 15–29.vi.1998 (2) & 1–10.vi.1999 (1) *ex* 3–6” dia. dead trunk *Betula nigra* coll. 23.iv.1997; Shannon Co., Ozark NSR, Round Spring RA, S access, T30N R4W S20 (NW¼), em. 8.v–11.vii.2002 (7) *ex* 3–4” dia. dead trunk *B. nigra* coll. 21.iv.2002; same data except em. 12.v–16.viii.2003 (19) *ex* wood coll. 1.v.2003; Round Spring RA, Middle Access, vic. cpgd., T30N R4W S20 (NW¼), em. 1–14.vi.2003 (1) *ex* dead branch *Salix exigua* coll. 1.v.2003; Stone Co., Ashe Juniper NA, 4.0 mi N Hwy 86 on Hwy JJ, T22N R22W S20, em. 22–29.vi.1998 (1) *ex* ½–2” dia. dead branch *Quercus stellata* coll. 7.iv.2001; Wayne Co., Sam A. Baker SP, ~1 mi down Mudlick Trail, T30N R5E S32, em. 6–12.vii.1998 (1) *ex* slightly decayed 6–8” dia. trunk standing dead *Quercus velutina* coll. 6.vii.1997.

Xylotrechus convergens LeConte. MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 11–20.vi.1999 (6) *ex* dead branch *Crataegus viridis* coll. 23.iv.1998; same data except em. 8–17.vi.2002 (1) *ex* wood cut 8.iv.2001 & coll. 31.iii.2002. This species has been repeatedly associated with unspecified *Crataegus* spp. (Beutenmüller 1896; Craighead 1923; Knull 1946; Linsley 1964; MacRae 1994).

Subfamily Lepturinae

Acmæops discoideus (Haldeman). Alexander (1957) did not list this species from: OKLAHOMA, Latimer Co., v.1986, K. Stephan collr. [FSCA]. It has been recorded from across the eastern U.S. (Linsley and Chemsak 1972).

Anastrangalia sanguinea (LeConte). Many flower hosts have been recorded for this species (Wilson 1971; Linsley and Chemsak 1976; Gosling 1984b), to which the following can be added: CALIFORNIA, El Dorado Co., Lake Tahoe Basin, 0.5 mi S Fallen Leaf Cpgd., elev. 6,250', 2–30.vii.1995 (63), on flowers *Ceanothus cordulatus* Kellogg, *Perideridia sp.* (Apiaceae), *Potentilla gracilis* Dougl. *ex* Hook. (Rosaceae) & *Triteleia hyacinthine* (Lindl.) Greene (Liliaceae).

Brachyleptura rubrica (Say). Reported hosts include *Acer*, *Betula*, *Carya*, *Castanea*, *Fagus grandifolia*, *Platanus*, *Prunus*, and *Quercus* (Linsley and Chemsak 1997; Vlasak and Vlasakova 2002). An additional larval host is: MISSOURI, Iron Co., Hwy 21 at Royal Gorge, T33N R3E S23 (SC1/9), em. 11–20.v.2004 (1) *ex* dead branch *Carpinus caroliniana* Walt. *ssp. virginiana* (Marsh.) Furlow coll. 7.ii.2004.

Charisalia americana (Haldeman). Reexamination of specimens reported from Missouri (MacRae 1994) has revealed that some of them (Tyson Research Center [now DJHC], Salem and Ranken) actually represent *Nealosterna capitata* (Newman) (see discussion below). The remaining specimens reported as *C. americana* (Creve Coeur Lake, Victoria Glades and St. Louis) are correctly identified.

Cortodera cubitalis (LeConte). CALIFORNIA, Colusa Co., Bear Creek, 1.0–1.5 mi NE Jct Hwys 20 & 16, 30.iv.1994 (8), on flower *Toxicodendron diversilobum* (Torr. & Gray) Greene (Anacardiaceae). Linsley and Chemsak (1972) recorded several additional plant genera as flower hosts.

Cosmosalia chrysocoma (Kirby). This common boreal species is found on a great diversity of flowers (Wilson 1971; Penrose and Westcott 1974; Linsley and Chemsak 1976), to which the following can be added: CALIFORNIA, El Dorado Co., El Dorado NF, Ice House Lake, vic. dam, 4.viii.1991 (2), on flower *Oxypolis occidentalis* Coult. & Rose (Apiaceae); Lake Tahoe Basin, 0.5 mi S Fallen Leaf Cpgd., elev. 6,250', 16.vii.1995 (3), on flower *Triteleia hyacinthina*.

Gaurotes thoracicus (Haldeman). In their review of North American Cerambycidae, Linsley and Chemsak (1972) saw only the female type from Pennsylvania and a second female from Massachusetts. It has since been recorded from a handful of localities in the eastern U.S. (Gosling and Gosling 1977; Gosling 1984b; Schiefer 2001; Nebeker *et al.* 2005) and is now reported from: MISSOURI, Bollinger Co., 7.5 mi W of Patton, 7.v.1994 (2), at MV light in fresh-cut hardwood forest clearing, F. W. Skillman, Jr. collr. [TCMC]. Both specimens are males and differ from the female description in Linsley and Chemsak (1972) by their narrower form, elytra more than twice as long as broad; antennae extending past middle of elytra, third antennomere subequal to or slightly longer than first, and last abdominal sternite narrowly rounded at apex.

Gnathacmaeops pratensis (Laicharting). This conifer-associate has been reported from flowers of a variety of plants (Wilson 1971; Linsley and Chemsak 1976; Burne 1998), to which the following can be added: CALIFORNIA, El Dorado Co., Lake Tahoe Basin, 0.5 mi S Fallen Leaf Cpgd., elev. 6,250', 2.vii.1995 (1), on flower *Ceanothus cordulatus*; MONTANA, Park Co., nr. Cooke City, 21.vii.1993 (6), on flower *Geranium* *sp.* (Geraniaceae), G. Balogh collr. [TCMC].

Grammoptera haematites (Newman). Though common across much of the eastern U.S., this species is rarely collected in Missouri, where it is apparently near the western limit of its distribution. The following represents the third record of the species from the state and an addition to the many flower hosts reported for the species (Wilson 1971; Linsley and Chemsak 1976; Gosling and Gosling 1977; Gosling 1984b; Schiefer 1998a; Rice and Veal 2006): MISSOURI, Jefferson Co., Valley View Glades NA, 22.v.1993 (1), on flower *Physocarpus opulifolius* *var. intermedius* (Rydb.) B. L. Robins. (Rosaceae), R. S. Thoma collr. [TCMC].

Grammoptera militaris (Chevrolat). Linsley and Chemsak (1976) recorded flower hosts belonging to several plant genera, to which the following can be

added: CALIFORNIA, Colusa Co., Bear Creek, 1.0–1.5 mi NW Jct Hwys 16 & 20, 30.iv.1994 (4), on flower *Toxicodendron diversilobum*.

Grammoptera molybdica (LeConte). Linsley and Chemsak (1976) recorded flower hosts belonging to several plant genera, to which the following can be added: CALIFORNIA, Colusa Co., Bear Creek, 1.0–1.5 mi NW Jct Hwys 16 & 20, 24.iv.1992 (2) & 30.iv.1994 (3), on flower *Toxicodendron diversilobum*.

Judolia montivagens barberi (Fall). CALIFORNIA, Placer Co., Tahoe NF, 9 mi S Serene Lakes on Soda Springs Road, 30.vii.1995 (2), on flower *Ceanothus cordulatus*. The only other flower host recorded for this species is *Cistanthe* [= *Calyptridium*] (Portulacaceae) (Linsley and Chemsak 1976).

Judolia scapularis (Van Dyke). CALIFORNIA, Riverside Co., Santa Rosa Mts., 2.4 mi NE Pinyon Flats on Hwy 74, 25.v.1995 (1), on flower *Encelia virginensis* var. *actonii* (Elmer) B. L. Turner (Asteraceae); Pinyon Flats, Jct Jeraboa & Indio Roads, 26.v.1995 (1), on flower *E. virginensis* var. *actonii*; Santa Rosa Mts., Pinyon Flats, 23.vi.1991 (1), on flower *Eriogonum fasciculatum* Benth.; San Bernardino Co., San Gabriel Mts., Pinyon Hill, 24.vi.1991 (6), on flower *E. fasciculatum*. Linsley and Chemsak (1976) recorded the species on flowers of plants in several other genera.

Judolia swaini jacintana (Linsley). CALIFORNIA, Riverside Co., Santa Rosa Mts., 2.4 mi NE Pinyon Flats on Hwy 74, 25.v.1995 (2), on flower *Encelia virginensis* var. *actonii* [& DJHC]. Adults of this southern California species have also been recorded on flowers of *E. farinosa* Gray ex Torr. and *Eriogonum* sp. (Linsley 1940b; Linsley and Chemsak 1976).

Leptura abdominalis (Haldeman). GEORGIA, Clinch Co., 10 mi NE Edith on Hwy 177, 7.vi.2000 (2), on flower *Cyrilla racemiflora* L. (Cyrillaceae). This species has also been recorded on flowers of *Castanea*, *Hydrangea arborescens* L. (Hydrangeaceae) and *Ilex* (Aquifoliaceae) (Linsley and Chemsak 1976; Schiefer 1998a).

Leptura obliterata soror LeConte. In addition to the flower hosts listed by Linsley and Chemsak (1976), this species utilizes: CALIFORNIA, El Dorado Co., Lake Tahoe Basin, 0.5 mi S Fallen Leaf Cpgd., elev. 6,250', 2–30.vii.1995 (32), on flowers *Ceanothus cordulatus*, *Perideridia* sp. & *Triteleia hyacinthina*.

Leptura plebeja Randall. The following can be added to the flower hosts already recorded for this species (Wilson 1971; Linsley and Chemsak 1976; Gosling 1984b): MICHIGAN, Alger Co., 6 mi S Grand Marais, T48N R14W S1, 6.viii.1989 (5), on flower *Viburnum nudum* var. *cassinoides*.

Neosalosterna capitata (Newman). MacRae (1994) included this species for Missouri based on Leng (1890); however, several specimens identified as *C. americana* have been determined to represent this species (see discussion above). The species was recently recorded from Benton Co., Missouri (Shockley and Cline 2004), and additional distribution records for the state are: MISSOURI, Bollinger Co., 7.5 mi W of Patton, 7.v.1994 (14), at MV light in fresh-cut hardwood forest clearing, F. W. Skillman, Jr. collr. [& TCMC]; Camden Co., Village of Four Seasons, 3.5 mi W Jct Hwys 54 & HH, 10.v.1997 (1), on *Quercus velutina*; St. Louis Co., Wildwood, 7 Stone Chimney Dr., T44N R3E S5–6, 2.v.2001 (1), at MV light in oak/hickory forest. Linsley and Chemsak (Linsley and Chemsak 1997) listed *Betula alleghaniensis* Britt. as a host plant, but it is not clear whether this is a larval or adult association.

Neobellamira delicata delicata (LeConte). CALIFORNIA, Placer Co., Auburn SRA, 1–2 mi SE Auburn, 4.vi.1991 (3), on flower *Toxicodendron diversilobum*. Linsley and Chemsak (1976) listed flower hosts in a number of other plant genera.

Ortholeptura valida (LeConte). CALIFORNIA, Mono Co., Inyo NF, 2.9 mi W Hwy 395, Upper Deadman Cpgd., elev. 7,500', em. 1–31.vii.1996 (1) ex large stump dead *Pinus jeffreyi* coll. 20.viii.1995. Previously recorded larval hosts are *Abies concolor* (Gord. & Glend.) Lindl. ex Hildebr. and *Calocedrus decurrens* (Torr.) Florin [= *Libocedrus decurrens*] (Tyson 1966; Cope 1984).

Pachyta lamed liturata Kirby. ALASKA, Kenai Peninsula, Chugach NF, Porcupine Creek Cpgd., elev. 150', 20.viii.2006 (1), on flower *Epilobium angustifolium*, M. S. Arduser collr. [TCMC]. This species has been recorded breeding in many coniferous genera (Linsley and Chemsak 1972), but flower records for the species are lacking.

Pidonia (s. str.) *densicollis* (Casey). NORTH CAROLINA, McDowell Co., Pisgah NF, Linville Gorge along Pine Gap Trail, 15.vi.1995 (5), on flower *Rosa* sp. (Rosaceae). Linsley and Chemsak (1976) recorded several other plant genera as flower hosts.

Pseudostrangalia cruentata (Haldeman). This uncommonly encountered species has been reported from a handful of states in the eastern U.S. west to Texas (Linsley and Chemsak 1976). We are not aware of specific records from: ILLINOIS, Mason Co., Sand Prairie SF, 22.v.1985 (1), G. Balogh collr. [TCMC].

Stenelytrana emarginata (Fabricius). MISSOURI, Bollinger Co., Duck Creek CA, NE corner Pool 2, T28N R9E S32, em. 17–31.vii.1997 (1) & 30.vi–5.vii.1998 (1) ex 12" dia. trunk standing dead *Quercus palustris* coll. 14.ix.1996; Wayne Co., Sam A. Baker SP, 1 mi NW park road on Mudlick Trail, T30N R5E S32, em. 15–21.vi.1998 (1) ex 6–8" dia. slightly decayed trunk standing dead *Quercus velutina* coll. 6.vii.1997. Several angiospermous plants have been recorded as larval hosts for this attractive species (Knull 1946; Linsley and Chemsak 1976), but these records suggest that *Quercus* is a favored host in Missouri.

Stenocorus schaumii (LeConte). IOWA, Boone Co., Ledges SP, 7.vi.2006, 11:51 a.m. (1), on flower *Cornus* sp., M. E. Rice collr. This species was collected as part of a larger study during June 6–16, 2006 that measured the longhorned beetle biodiversity and phenology on flowering *Cornus* in a temperate hardwood forest. During this study, 2,273 specimens representing 21 species were observed but only one specimen of *S. schaumii* was seen. The specimen was an adult female that was collected as she fed on *Cornus* flowers about 2.4 m above the ground during conditions of bright sun and no wind. Several hardwood larval hosts have been recorded for this species, and Rice (1981) reported an adult on black walnut, *Juglans nigra* L.; however, this is the first flower-visiting record for this rarely-collected longhorned beetle. An apparent southwestern extension to the known geographical distribution of this species, more commonly encountered in the northeastern U.S. (Linsley and Chemsak 1972), is represented by the following record: OKLAHOMA, Latimer Co., v.1990 (1), K. Stephan collr. [FSCA]. The specific epithet is frequently given as "*schaumi*" in the literature, but this is an incorrect subsequent spelling (ICZN 1999, Articles 32.3 and 33.4) of "*Toxotus Schaumii*" (LeConte 1850).

Stenostrophia tribalteata sierrae Linsley & Chemsak. CALIFORNIA, El Dorado Co., El Dorado NF, Ice House Lake, vic. dam, 4.vii.1991 (11), on flower *Oxypolis occidentalis*; Lake Tahoe Basin, 0.5 mi S Fallen Leaf Cpgd., elev. 6,250', 30.vii.1995 (1), on flower *Perideridia* sp.; Placer Co., Tahoe NF, 9 mi S Serene Lakes on Soda Springs Road, 30.vii.1995 (1), on flower *Ceanothus cordulatus*. Linsley and Chemsak (1976) record several additional flower hosts for this subspecies.

Stenostrophia tribalteata tribalteata (LeConte). CALIFORNIA, Mono Co., 2.3 mi W Benton Hot Springs on Hwy 120, elev. 6,100', 19.viii.1995 (1), on flower *Eriogonum nummulare* M. E. Jones. Linsley and Chemsak (1976) recorded several other plant genera as flower hosts.

Strangalia luteicornis (Fabricius). MISSOURI, Franklin Co., nr. Krakow, Whiskey Creek Sheep Farm, em. 21–31.v.2004 (1) *ex* dead, decaying branch *Betula nigra* coll. 28.iii.2004. *Fagus grandifolia*, *Ulmus*, *Viburnum dentatum* L., and *Vitis* have also been recorded as larval hosts for this species (Craighead 1923; Champlain *et al.* 1925).

Strangalia occidentalis Linsley & Chemsak. ARIZONA, Santa Cruz Co., Madera Canyon, "Super Trail," elev. 5,500–7,500', 2.viii.1998 (2), on flower *Ceanothus fendleri* Gray, M. S. Arduser collr. [TCMC]. No host information has previously been recorded for this species.

Strangalia sexnotata Haldeman. A tremendous number of flower hosts have been reported for this species (Kirk 1970; Linsley and Chemsak 1976; Lingafelter and Horner 1993; MacRae 1994; Schiefer 1998a; Van Pelt 1999), to which the following can be added: TEXAS, Brewster Co., Big Bend NP, Chisos Mts., Green Gulch, 3.8 mi S Jct Hwys 118 & 14, 23.vi.1994 (2), on flowers *Machaeranthera gracilis* (Nutt.) Shinners (Asteraceae) & *Polygala alba* Nutt. (Polygalaceae); Chisos Mts. Basin, Window Trail, elev. 4,700–5,400', 21.vi.1994 (8), on flowers *Gymnosperma glutinosum* (Spreng.) Less. (Asteraceae), *P. alba* & *Viguiera stenoloba* Blake (Asteraceae); Chisos Mts. Basin, vic. Basin Lodge, elev. 5,500', 23.vi.1994 (4), on flowers *G. glutinosum* & *V. stenoloba*; Real Co., 8.0 mi NE Camp Wood on Hwy 337, 21.v.1995 (1), on flower *Ratibida columnifera*; Uvalde Co., 4.5 mi N Concan on Hwy 83, 21.v.1995 (1), on flower *Calylophus berlandieri* ssp. *pinifolius* (Engelm. *ex* Gray) Towner (Onagraceae).

Trachysida mutabilis (Newman). This species has been recorded from across much of the eastern U.S. and southeastern Canada (Linsley and Chemsak 1976) but has not been known until now from: MISSOURI, Iron Co., Hwy 21 at Royal Gorge, T33N R3E S23 (SC1/9), em. 1–17.iv.2004 (1) dead branch *Carpinus caroliniana* ssp. *virginiana* coll. 7.ii.2004.

Typocerus badius (Newman). GEORGIA, Clinch Co., 10 mi NE Edith on Hwy 177, 7.vi.2000 (5), on flower *Cyrilla racemiflora*. Adults have also been reported on flowers of *Cornus asperifolia* Michx., *Ilex*, *Osmanthus* [= *Olea*] *americanus* (L.) Benth. & Hook. f. *ex* Gray (Oleaceae), and *Vaccinium arboreum* Marsh. (Ericaceae) (Linsley and Chemsak 1976; Turnbow and Hovore 1979).

Typocerus balteatus balteatus Horn. CALIFORNIA, Mono Co., 4.6 mi W state line on Hwy 167, 22.viii.1993 (1), on flower *Eriogonum nummulare*; NEW MEXICO, Rio Arriba Co., Carson NF, 6 mi E Gobenador on Hwy 64, 7.viii.2000 (1), on flower *Cleome serrulata* Pursh (Capparaceae), M. S. Arduser collr. [TCMC]. The only other flower hosts reported for this western North America species are *Chrysothamnus viscidiflorus* (Hook.) Nutt. and *Erigeron* (Asteraceae) (Linsley and Chemsak 1976; Rice 1988; Heffern 1998).

Typocerus humulatus humulatus (Swederus). Adults of this pine-associate have been reported from a variety of flowers (Linsley and Chemsak 1976; MacRae 1994; Schiefer 1998a), to which the following can be added: GEORGIA, Clinch Co., 10 mi NE Edith on Hwy 177, 7.vi.2000 (2), on flower *Cyrilla racemiflora*; 6.5 mi NE Edith on Hwy 177, 7.vi.2000 (1), on flower *C. racemiflora*.

Typocerus velutinus velutinus (Olivier). MISSOURI, Shannon Co., Ozark NSR, Round Spring RA, Middle Access, vic. cpgd., T30N R4W S20 (NW¼), em. 1–14.vi.2003 (1) *ex* dead trunk *Salix exigua* coll. 1.v.2003. Previously recorded larval

hosts include *Betula alleghaniensis*, *Carya*, *Populus deltoides* Bartr. ex Marsh., and *Quercus* (Craighead 1923; Knull 1932, 1946; Vlasak and Vlasakova 2002).

Ulochaetes leoninus LeConte. CALIFORNIA, Mono Co., Inyo NF, 2.9 mi E Hwy 395, Upper Deadman Cpgd., elev. 7,500', 20.vii.1995 (2), on ground at base of dead *Pinus contorta* exhibiting numerous adult emergence holes; Napa Co., 1 mi N Shell Valley on Butts Canyon Road, 22.v.1994 (9), cut ex lower trunk sapwood large standing dead *Pinus sabiniana* Dougl. ex Dougl. A variety of other gymnosperms, mostly pines, have been recorded as larval hosts for this unusual Hymenoptera-mimicking species (Riley 1880; Craighead 1923; Linsley 1940a; Linsley and Chemsak 1972).

Xestoleptura tibialis (LeConte). MICHIGAN, Alger Co., 6 mi S Grand Marais, T48N R14W S1, 5–6.vii.1989 (4), on flower *Viburnum nudum* var. *cassinoides*. Penrose and Westcott (1974) and Linsley and Chemsak (1976) recorded several other flower hosts for this species.

Subfamily Lamiinae

Acanthocinus leechi (Dillon). This uncommonly collected species has been recorded from Arizona and Colorado (Lewis 1979; Heffern 1998) and now the Four Corners region of: **NEW MEXICO**, San Juan Co., nr. Farmington, 2 mi N Hwy 64 on County Road 350, N36°43' W108°05', 12.viii–3.ix.2005 (2), at MV light, P. Kaufman collr. [& TCMC].

Aegomorphus morrissi (Uhler). This rare and beautiful species was recorded from Missouri by Leng and Hamilton (1896) and Blatchley (1910), but neither Rice and Enns (1981) nor MacRae (1994) saw specimens from the state. Its occurrence there is verified by the following: MISSOURI, Carter Co., Peck Ranch CA, Jct Service Roads #2 & 3, T27N R2W S4 (SW¼), 16.vii.1998 (1), dead on sidewalk, C. R. Brown collr. [TCMC, courtesy of S. R. Penn].

Ataxia brunnea Champlain & Knull. Nothing is known regarding the larval habits of this rarely collected species (Linsley and Chemsak 1984). Adults have been collected in dense oak-hickory forests in Missouri, mixed pine-harwood forests in Texas, and calcareous glades in Mississippi (Rice and Enns 1981; Turnbow and Wappes 1981; Schiefer 1998b). Given the paucity of data regarding habitats for this species, the following records are noteworthy: MISSOURI, St. Louis Co., Wildwood, Jct Hwys 100 & 109, 10.vi.1998 (4) [& DJHC]; 2.5 mi S Jct Hwys 100 & 109, 23.vi.1999 (2). All of the specimens were taken at building lights bordering relatively undisturbed dry-mesic upland forests.

Cyrtinus pygmaeus (Haldeman). This diminutive ant-mimic has been associated with a variety of hardwood tree genera, including *Acer*, *Carya*, *Cercis*, *Cornus*, *Juglans*, *Liriodendron*, *Quercus*, *Robinia* (Fabaceae) and *Sapindus* (Beutenmüller 1896; Craighead 1923; Knull 1946; Linsley and Chemsak 1995, 1997). Adults were extremely abundant on the limbs of a single hawthorn tree (*Crataegus* sp.) during early spring in: TEXAS, Wharton Co., 2 mi SW Wharton, 25–26.iii.1982 (41), 18–20.iv.1982 (20), 29.iv.1982 (2), 29.iii.1983 (8), 4.iv.1983 (9), 19.iv.1983 (15), all beaten from *Crataegus* sp., M. E. Rice collr. Newly reported larval hosts include: MISSOURI, Butler Co., Big Cane CA, T22N R5E S36 (NW¼), em. 1–10.v.2004 (1) ex dead branch *Quercus phellos* coll. 21.iii.2004; Carter Co., Ozark NSR, Big Spring, vic. cpgd., T27N R1E S31 (SE¼), em. 28.iv–7.v.2001 (4) ex dead branch *Betula nigra* coll. 14.iv.2001; same locality, em. 10.v–7.vi.2002 (4) ex dead branch *B. nigra* coll. 31.iii.2002; Peck Ranch CA, Nordic Hollow, T27N R2W S17, em. 24–31.iv.2002 (1) ex dead branch *Quercus muhlenbergii* cut 8.iv.2001 & coll. 31.iii.2002; Stone Co., Ashe Juniper NA, 4.0 mi N Hwy 86 on JJ, NE corner of

parcel, T22N R22W S20, em. 21–30.iv.2002 (4) *ex* branch fire-killed *Quercus velutina* coll. 17.iii.2002.

Ecyrus arcuatus Gahan. TEXAS, Bexar Co., San Antonio, 1.0 mi N Jet Loop 1604 & Hwy 281, em. 3–15.ix.2002 (1) *ex* dead branch *Celtis laevigata* coll. 25.x.2001; Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 14.ix–23.x.1998 (3) *ex* dead branch *C. laevigata* coll. 8.x.1997; same locality, em. 15–31.x.2002 (3) *ex* dead branch *Parkinsonia aculeata* coll. 17.x.2001; Zapata Co., Falcon Lake SP, along Nature Trail near Lake, em. 1.viii–30.ix.1995 (2) *ex* dead branch *P. aculeata* coll. vi.1994; Falcon Lake SP, along N portion of Nature Trail, em. 3–15.x.2002 (1) *ex* dead branch *Parkinsonia texana* var. *texana* (Gray) S. Wats. coll. 20.x.2001. Previously recorded larval hosts are *Acacia farnesiana*, *Cercis canadensis*, *Prosopis glandulosa*, and *Sesbania drummondii* (Rydb.) Cory (Fabaceae) (Linsley 1935; Rice 1985; Hovore *et al.* 1987).

Ecyrus dasycerus dasycerus (Say). Many larval hosts have been recorded for this species (LeConte 1880; Rice 1988; MacRae 1994; Linsley and Chemsak 1997), to which the following can be added: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 1–11.vi.2000 (1) *ex* dead branch *Celtis laevigata* cut 3.v.1998 & coll. 9.iv.1999; Camden Co., Village of Four Seasons, 3.5 mi W Jct Hwys 54 & HH, em. 17–31.vii.1997 (1) *ex* dead branch *Quercus muhlenbergii* coll. 10.v.1997; Stoddard Co., Duck Creek CA, N access to Pool 2, T27N R9E S4 (NW¼), em. 1.vi–15.vii.2003 (5) *ex* dead branch *Salix nigra* coll. 8.vi.2002; Stone Co., Ashe Juniper NA, 4.0 mi N Hwy 86 on Hwy JJ, T22N R22W S20, em. 8.v–15.vi.2001 (3) *ex* 1–3" dia. dead branch *Acer saccharum* coll. 17.ix.2000; same locality, em. 1–7.v.2002 (1) *ex* branch fire-killed *Quercus velutina* coll. 17.iii.2002; Taney Co., Mincy CA, vic. cpgd., T22N R20W S16 (SE¼), em. 24.v–7.v.2002 (2) *ex* dead branch *Celtis tenuifolia* cut 7.iv.2001 & coll. 17.iii.2002.

Ecyrus dasycerus floridanus Linsley. FLORIDA, Collier Co., Collier-Seminole SP, vic. boat ramp, em. 22–29.vi.1999 (1) *ex* dead branch *Quercus laurifolia* cut 1.iii.1998 & coll. 25.iv.1999. Adults have also been reared from *Ficus aurea* Nutt., *Lysiloma latisiliquum* (L.) Benth. (Fabaceae), and *Metopium toxifera* (L.) Krug & Urban (Anacardiaceae) (Turnbow and Hovore 1979).

Eupogonius subarmatus (LeConte). This species has not previously been recorded from: MISSOURI, Clark Co., Battle of Athens SP, vic. playground, T67N R7W S30 (NE¼), em. 22–31.v.2003 (1) *ex* dead branch *Tilia americana* L. coll. 19.iv.2003; St. Louis Co., Chesterfield Village, Monsanto campus, em. 11–20.v.2004 (1) *ex* dead branch *T. americana* coll. 2.iv.2004. This species has also been reared from *Tilia* spp. in Michigan (Gosling 1984a) and Massachusetts (Vlasak and Vlasakova 2002). Linsley and Chemsak (1984, 1997) list several other genera as host plants, but these may refer to adult rather than larval associations.

Eutrichillus canescens Dillon. TEXAS, Jeff Davis Co., Davis Mts. Resort, Limpia Canyon at Yellow Knife Trail, elev. 5,650', em. 12–22.vii.2002 (6) & 12.v–31.vii.2003 (13) *ex* dead branch *Pinus cembroides* coll. 24.x.2001. Lewis (1979) recorded *Pinus monophylla* as a larval host.

Goes variegatus Linsley & Chemsak. A third Missouri specimen of this species (MacRae 1994) contains the following data: MISSOURI: Boone Co., Columbia, Landfill, 10.vi.2005 (1), α -pinine trap, A. Becker collr. [MODA].

Hemierana marginata ardens (LeConte). MISSOURI, St. Louis Co., Chesterfield Village, Monsanto campus, 12.vi.1996 (5), on stems/foliage *Heliopsis helianthoides* var. *occidentalis* (T. R. Fisher) Steyermark (Asteraceae). The adults

exhibited an obvious attraction to this plant species, alighting on no other plants in the area; however, whether it is used as a larval host is unknown. *Vernonia baldwinii* Torr. ssp. *interior* (Small) Faust is the only recorded larval host for this subspecies (Schwitzer and Wilbur 1942).

Hyperplatys maculata Haldeman. MISSOURI, Taney Co., Mincy CA, along Fox Creek, T21N R20W S27, em. 8.v–31.v.2002 (4) *ex* dead branch *Aesculus pavia* L. (Hippocastaneae) cut 7.iv.2001 & coll. 17.iii.2002. A great many larval hosts have been reported for this species (Riley 1880; Beutenmüller 1896; Knull 1932; Gardiner 1961; Rice and Enns 1981; Gosling 1984a; MacRae 1994); however, some of these may be misleading due to a long history of taxonomic confusion between this species and *H. aspersa* (Say) (Gardiner 1961).

Leptostylopsis planidorsus (LeConte). This species has previously been reared from *Betula nigra* and prob. *Vitis* (Turnbow and Hovore 1979). An additional larval host is: FLORIDA, Collier Co., Collier-Seminole SP, vic. boat ramp, em. 1–10.vi.1999 (1) *ex* dead branch *Quercus laurifolia* cut 1.iii.1998 & coll. 25.iv.1999. A western range extension for this species is: OKLAHOMA, Latimer Co., vii.1992 (2), K. Stephan collr. [FSCA].

Leptostylus transversus (Gyllenhal). To the variety of larval hosts already recorded for this species (Kirk 1970; Champlain *et al.* 1925; Turnbow and Hovore 1979; Rice and Enns 1981; Rice 1981; Rice 1985; MacRae 1994; Linsley and Chemsak 1997) the following can be added: MISSOURI, St. Clair Co., Lichen Glade NA, T38N R26W S16 (SC1/9), em. 1–11.v.2003 (1) *ex* dead branch *Quercus stellata* coll. 21.ix.2002; Saline Co., Miami Access at Missouri River, T52N R21W S5 (NE¼), em. 10–20.iv.2002 (1) *ex* dead sapling *Quercus macrocarpa* coll. 11.viii.2001; Taney Co., Mincy CA, along Fox Creek, T21N R20W S27, em. 1–11.v.2003 (1) *ex* dead branch *Aesculus pavia* cut 7.iv.2001 & coll. 17.iii.2002.

Lepturges angulatus (LeConte). Many larval hosts have already recorded for this species (Turnbow and Wappes 1978; Rice and Enns 1981; Hovore and Penrose 1982; Hovore *et al.* 1987; Linsley and Chemsak 1997), to which the following can be added: MISSOURI, Adair Co., Thousand Hills SP, along Hickory Trail, T62N R16W S11 (SE¼), em. 1–10.vi.2004 (1) *ex* dead branch *Amelanchier arborea* coll. 19.iv.2003; Clark Co., Frost Island CA, Steyermark Prairie NA, T65N R6W S9 (SE¼), em. 12–22.vii.2002 (1) & 15–30.vi.2003 (1) *ex* dead branch *Gymnocladus dioicus* (L.) K. Koch (Fabaceae) coll. 7.iv.2002; Montgomery Co., Graham Cave SP & NA, T48N R6W S27 (NE¼), em. 24.v–5.viii.2001 (5) *ex* small fire-killed *Celtis tenuifolia* coll. 6.v.2001; Taney Co., Mincy CA, along Fox Creek, T21N R20W S27, em. 1.vii–22.vii.2002 (2) & 1.vi–15.vii.2003 (4) *ex* dead branch *Aesculus pavia* cut 7.iv.2001 & coll. 17.iii.2002; TEXAS, Bexar Co., Jct Loop 1604 & Potranco Road, em. 12–30.vi.1999 (1) *ex* 14" dia. trunk standing dead *Celtis laevigata* coll. 6.x.1997; Hidalgo Co., Bentsen-Rio Grande Valley SP, Rio Grande River Hiking Trail, em. 13.vii–23.x.1998 (54) & 18–30.iv.1999 (1) *ex* dead branch *C. laevigata* coll. 8.x.1997; same locality, em. 16.ix–31.x.2002 (5) & 16–31.vii.2003 (2) *ex* dead branch *Parkinsonia aculeata* coll. 17.x.2001; Bentsen-Rio Grande Valley SP, Singing Chaparral Nature Trail, em. 1.viii–23.x.1998 (13) *ex* dead branch *P. aculeata* coll. 8.x.1997; Santa Ana NWR, vic. Willow Lake, em. 14.ix–23.x.1998 (1) *ex* dead branch *C. laevigata* coll. 9.x.1997; same locality, em. 14.ix–23.x.1998 (1) *ex* dead branch *P. aculeata* coll. 9.x.1997.

Lepturges confluens (Haldeman). As previously noted (Rice and Enns 1981), this species is reared most abundantly from *Juglans nigra* and species of *Carya*.

Additional larval hosts in the latter genus are: MISSOURI, Crawford Co., Blue Spring Creek CA, T39N R2W S5 (SE $\frac{1}{4}$), em. 8–15.v.2001 (1) *ex* dead branch *Carya laciniosa* coll. 28.iv.2001; Scott Co., 2 mi S Kelso, em. 25.vi.1990 (1) *ex* dead branch *Carya illinoensis* coll. 28.xii.1988.

Lepturges pictus (LeConte). This species has been associated primarily with and reared only from *Celtis* spp. Additional larval hosts in this plant genus are: MISSOURI, St. Louis Co., Chesterfield Village, Monsanto campus, em. 11–20.vi.1999 (1) & 14–31.v.2000 (3) *ex* dead branch *Celtis occidentalis* coll. 1.v.1999; Taney Co., Mincy CA, vic. cpgd., T22N R20W S16 (SE $\frac{1}{4}$), em. 24–31.v.2002 (1) *ex* dead branch *Celtis tenuifolia* cut 7.iv.2001 & coll. 17.iii.2002. A newly recorded distribution for this eastern U.S. species is represented by the following: KANSAS, Crawford Co., 26.v.1987 (1), at UV light, G. A. Salsbury collr. [TCMC].

Lepturges regularis (LeConte). MISSOURI, Taney Co., Mincy CA, along Fox Creek, T21N R20W S27, em. 1–7.v.2002 (1) *ex* dead branch *Aesculus pavia* cut 7.iv.2001 & coll. 17.iii.2002. The only other recorded larval host is *A. glabra* Willd. (Rice and Enns 1981), but Blatchley (1910) reported adults collected on *Vitis* sp.

Lepturges symmetricus (Haldeman). Beutenmüller (1896) and Craighead (1923) reported a variety of plant genera (*e.g.*, *Carya*, *Castanea*, *Cornus*, *Ficus*, *Juglans*, *Morus*, *Ulmus*) as larval hosts for this species. These were summarized recently by Linsley and Chemsak (1995, 1997). Craighead (1923) in particular stated the species breeds most commonly in *Juglans*. However, in Missouri, *L. symmetricus* has been reared only from *Tilia* [specimens previously reported on dead *Celtis* and reared from *Juglans* in Missouri (Rice and Enns 1981; MacRae 1994) actually represent *L. pictus* and *L. confluens*, respectively]. Most other reports of larval hosts for *L. symmetricus* (Massachusetts, Michigan and Pennsylvania) have also been limited to *Tilia* (Champlain *et al.* 1925; Knull 1934; Gosling 1984a; Vlasak and Vlasakova 2002), although Champlain *et al.* (1925) did report rearing adults from *Acer negundo* L. It seems likely that *L. symmetricus* is confined primarily to *Tilia* for larval development, and Craighead's (1923) larval description of *L. symmetricus* may refer instead to *L. confluens* (the latter being commonly associated with *Juglans*). The many other plant genera reported as larval hosts by Beutenmüller (1896) and Craighead (1923) also may either refer to other species or represent incidental adult associations. Because of confusion between this species and *L. pictus* in Missouri (Rice and Enns 1981; MacRae 1994), confirmed records of *L. symmetricus* in the state are presented as follows: MISSOURI: Boone Co., Columbia, 6.viii.1967 (1), at light, collr. unknown [UMRM]; same locality, 13.vi.1978 (1), on *Juglans nigra*, M. E. Rice collr.; Callaway Co., 4 mi E Holts Summit, 1–30.vi.1978 (1), in swimming pool, D. R. Gates collr. [MERC]; Clark Co., Battle of Athens SP, vic. playground, T67N R7W S30 (NE $\frac{1}{4}$), em. 12.v–14.vi.2003 (5) *ex* dead branch *T. americana* coll. 19.iv.2003; same data except em. 1.vi–31.viii.2004 (7) *ex* wood coll. 13.iii.2004; Jackson Co., Blue Springs, 20.vi.2001 (1), at UV light, G. H. Nelson collr. [FSCA]; St. Louis Co., Chesterfield Village, Monsanto campus, em. 1.v–30.ix.2004 (11) *ex* dead branch *T. americana* coll. 2.iv.2004; Creve Coeur Lake, 14.vii.1906 (1), G. W. Bock collr. [UMRM]; Kirkwood, 18–19.v.1987 (2), 20.vi.1990 (1) & 30.v.1991 (1), at incandescent light, R. S. Thoma collr. [TCMC]; Wildwood, 7 Stone Chimney Drive, T44N R3E S5–6, 12.vi.2001 (1), at MV light in mesic upland forest.

Liopinus alpha (Say). A large variety of hosts have been recorded for this beetle (LeConte 1880; Rice 1985; Lewis 1986; MacRae 1994; Linsley and Chemsak

1997), although a number of these records may be misleading due to a long history of taxonomic confusion between this and other species in the genus. New larval host records include: MISSOURI, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 1.vi–16.vii.1997 (13) *ex* dead branch *Betula nigra* coll. 23.iv.1997; same locality, em. 13–31.v.1998 (3) *ex* dead branch *Carya illinoensis* cut 23.iv.1997 & coll. 23.iv.1998; St. Louis Co., Wildwood, 7 Stone Chimney Drive, T44N R3E S5–6, em. 16–23.v.2001 (2) *ex* dead branch *Carya glabra* coll. 16.iv.2001; Wildwood, Jct Hardt/Dehart Farms Roads, T44N R3E S5, em. 1–10.v.2004 (2) *ex* dead branch *Amelanchier arborea* coll. 2.iv.2004; Taney Co., Mincy CA, vic. cpd., T22N R20W S16 (SE¼), em. 24.v–17.vi.2002 (4) *ex* dead branch *Celtis tenuifolia* cut 7.iv.2001 & coll. 15.ix.2001; same data except em. 8.v–7.vi.2002 (10) *ex* from wood coll. 17.iii.2002.

Liopinus chemsaki (Lewis). ARIZONA, Santa Cruz Co., Santa Rita Mts., Madera Canyon, Old Baldy Trail, elev. 5,550', 7.viii.1998 (1), beaten from *Quercus hypoleucoides*. Adults have previously been reported only from undetermined *Quercus* sp. (Lewis 1986).

Liopinus decorus (Fall). ARIZONA, Cochise Co., Chiricahua Mts., 13.8 mi NW Portal on Road 42D, elev. 8,040', 4.viii.1998 (2), beaten from *Quercus arizonica*; Chiricahua Mts., 15.1 mi NW Portal on Road 42D, vic. Rustler Park Cpd., elev. 8,290', 4.viii.1998 (6), beaten from *Q. arizonica*; Chiricahua Mts., Cave Creek Canyon, vic. Sunny Flat Cpd., elev. 5,030', 3.viii.1998 (1), beaten from dead branch *Quercus hypoleucoides*. Adults have been collected on *Quercus gambeli* and reared from an undetermined *Quercus* sp. (Lewis 1979, 1986).

Liopinus imitans (Knull). ARIZONA, Cochise Co., Huachuca Mts., Miller Canyon, 1.9–2.5 mi W Hwy 92, elev. 5,550–5,780', 5.viii.1998 (1), beaten from *Quercus emoryi*; TEXAS, Jeff Davis Co., Davis Mts. SP, Limpia Canyon PA, 18.vi.2003 (2), beaten from dead branches *Celtis laevigata* var. *reticulata* & *Quercus pungens* var. *vaseyana*. Adults have previously been reported only from undetermined *Quercus* sp. (Knull 1936; Linsley *et al.* 1961; Lewis 1986).

Liopinus mimeticus (Casey). This species has been recorded breeding in a variety of plants (Turnbow and Hovore 1979; Hovore and Penrose 1982; Hovore *et al.* 1987; Rice 1985; Lewis 1986; Linsley and Chemsak 1997). Additional larval hosts and northern and western extensions to the known geographic range of this typically southeastern U.S. species (Linsley and Chemsak 1995) are represented by the following: FLORIDA, Monroe Co., Key Largo, Pennekamp SP, vic. park entrance, em. 24.viii–31.x.1998 (2) *ex* dead branch *Lysiloma latisiliquum* coll. 2.iii.1998; MISSOURI, Butler Co., Coon Island CA, T22N R7E S19 (NW¼), em. 1–31.vii.1998 (1) *ex* dead branch *Gleditsia triacanthos* coll. 31.viii.1997; TEXAS, Cameron Co., Brownsville, Jct Hwys 4 & 511, em. 1–22.vii.2002 (2) *ex* dead branch *Ebenopsis ebano* (Berl.) Barneby & Grimes [= *Pithecellobium ebano*] (Fabaceae) coll. 19.x.2001; Jeff Davis Co., Davis Mts. SP, 16–23.vi.1994 (6), at UV light; Hidalgo Co., Bentsen-Rio Grande Valley SP, Singing Chaparral Nature Trail, em. 1–10.viii.1998 (1) *ex* dead branch *Parkinsonia aculeata* coll. 8.x.1997; Starr Co., Falcon Heights, Jct Spur 2098, em. 16.ix–15.x.2002 (1) *ex* dead branch *E. ebano* coll. 20.x.2001.

Liopinus misellus (LeConte). Previously recorded larval hosts for this species are *Acer rubrum* L., *Carpinus caroliniana* ssp. *virginiana*, *Carya* sp., *Castanea dentata*, *Diospyros virginiana*, *Juglans nigra*, *Parthenocissus quinquefolia* (L.) Planch. (Vitaceae), and *Quercus coccinea* (Rice and Enns 1981; Gosling 1984a; Lewis 1986; MacRae 1994; Linsley and Chemsak 1997). Additional larval hosts are documented as follows: MISSOURI, Adair Co., 3.7 mi SE Millard on Hwy

63, T61N R14W S30 (NE¼), em. 22–31.v.2003 (1) *ex* dead branch *Betula nigra* coll. 19.iv.2003; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 3–31.v.1998 (43) & 18–31.vii.1999 (4) *ex* dead branch *Crataegus viridis* cut 23.iv.1997 & coll. 23.iv.1998; same data except em. 8–17.vi.2002 (1) *ex* wood cut 8.iv.2001 & coll. 31.iii.2002; same data except em. 1.vi–31.x.2003 (49) *ex* wood coll. 21.iii.2003; same locality, em. 24.v–24.vi.2002 (3) *ex* dead branch *Quercus phellos* cut 8.iv.2001 & coll. 31.iii.2002; same locality, em. 12.v–15.vii.2003 (8) *ex* dead branch *B. nigra* coll. 21.iii.2003; Stone Co., Ashe Juniper NA, 4.0 mi N Hwy 86 on JJ, NE corner of parcel, T22N R22W S20, em. 8.v–23.v.2002 (6) *ex* branch fire-killed *Quercus velutina* coll. 17.iii.2002.

Liopinus punctatus (Haldeman). A variety of larval hosts have been recorded for this species (Lewis 1986; MacRae 1994; Linsley and Chemsak 1997), with additional larval hosts as follows: MISSOURI, Adair Co., Thousand Hills SP, along Hickory Trail, T62N R16W S11 (SE¼), em. 1–21.v.2003 (3) *ex* dead branch *Carya cordiformis* (Wangenh.) K. Koch coll. 7.iv.2003; Butler Co., Allred Lake NA, T22N R6E S28 (SE¼), em. 1–11.vi.1997 (2) *ex* dead sapling *Carya illinoensis* coll. 14.ix.1996; Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 3–12.v.1998 (1) *ex* dead branch *Crataegus viridis* cut 23.iv.1997 & coll. 23.iv.1998; Putnam Co., Mineral Hills CA, T65N R19W S24, em. 20–23.v.2001 (1) *ex* dead branch *Juglans nigra* coll. 20.v.2001.

Mecas (s. str.) *bicallosa* Martin. This western U.S. species has been recorded as far east as Colorado (Chemsak and Linsley 1973) and is normally associated with *Artemisia* spp. (Hovore 1989; Heffern 1998). The following records document its occurrence in: KANSAS, Logan Co., 24.vi.1987 (2), on *Engelmannia pinnatifida* Gray *ex* Nutt. (Asteraceae), G. A. Salsbury collr. [TCMC]; Morton Co., 22.vi.1987 (1), sweeping rangeland, G. A. Salsbury collr. [TCMC].

Mecas (s. str.) *cana saturnina* (LeConte). Bayer and Shenefelt (1969) did not list any members of this genus from: WISCONSIN, Vilas Co., W side Carlin Lake nr. Presque Isle, 3.vii.1986 (1), G. Balogh collr. [TCMC]. The species has been reported from across the eastern U.S. as far west as Colorado and south to Mexico (Chemsak and Linsley 1973).

Mecas (s. str.) *cineracea* Casey. Chemsak and Linsley (1973) regarded this as a southern U.S. species occurring west to Arizona and Colorado; however, the recent reports of this species from North Dakota (Hanley 2005) and Iowa (Rice and Veal 2006) suggest it is much more widespread. It is likely that many historical records of “*M. inornata*” refer to this and other species of *Mecas* (Hovore *et al.* 1987; Hanley 2005). The following record establishes the occurrence of *M. cineracea* specifically in: KANSAS, Meade Co., 5.v.1986 (2), sweeping rangeland, G. A. Salsbury collr. [TCMC].

Mecas (*Dylobolus*) *rotundicollis* Thomson. Chemsak and Linsley (1973) recorded this species from across the southern U.S. as far north as Oklahoma. A northern extension to this range is represented by the following: KANSAS, Bourbon Co., 9 mi SW Ft. Scott, vi.2006 (1), in flight, G. A. Salsbury collr. [KSUC].

Monochamus scutellatus scutellatus (Say). NEW MEXICO, Otero Co., 4.4 mi S Hwy 82 on Road 63, Karr Canyon Picnic Area, elev. 7,670', em. 1–31.v.1999 (3) *ex* cut trunk sections *Pseudotsuga menziesii* coll. 9.viii.1998. The species has been recorded breeding in several pinaceous plant genera (Belyea 1952; Perry 1975; Gosling 1984a; Vlasak and Vlasakova 2002), but apparently only the western subspecies (*M. scutellatus oregonensis* LeConte) has been recorded breeding in *Pseudotsuga* (Linsley and Chemsak 1997).

Oberea flavipes Haldeman. This uncommonly encountered species has been recorded from only a few localities across the eastern U.S. A newly recorded distribution is: **ILLINOIS**, Will Co., Lockport, 14.vi.1968 (1), N. G. Seaborg collr. [TCMC].

Oberea tripunctata (Swederus). **MISSOURI**, Carter Co., Ozark NSR, Big Spring, vic. cpd., T27N R1E S31 (SE¼), 10.vi.2001 (4), on lower leaf surface *Verbesina helianthoides* Michx. (Asteraceae). Several additional individuals were seen but not captured, and all exhibited an obvious attraction to this plant species, alighting on no other plants in the area. This species has been recorded breeding in twigs of *Cornus* and other woody plant species (Riley 1880; Hicks 1962; Kirk 1970; Linsley and Chemsak 1997; Vlasak and Vlasakova 2002), so the significance of this herbaceous plant association is not clear.

Oplosia nubila (LeConte). **MISSOURI**, St. Louis Co., Chesterfield Village, Monsanto campus, 15.vi.2000 (1), at UV light in mesic upland forest, J. P. Uffman collr. [TCMC]. This record represents a southwestern range extension for this species, which is more commonly encountered in the northeastern U.S. (Linsley and Chemsak 1984).

Pogonocherus (Eupogonocherus) mixtus Haldeman. Rice and Enns (1981) and MacRae (1994) each reported single specimens from Missouri. The following represents an additional record for the state and a new adult host: **MISSOURI**, Carter Co., Peck Ranch CA, Stegall Mountain NA, 11.vi.1999 (6), beaten from lower, fire-scorched branches living *Pinus echinata* on igneous glade. The species has been reared from *Larix laricina* (Du Roi) K. Koch (Pinaceae), *Pinus resinosa* Soland., and *P. strobus* L. (Gosling 1984a; Vlasak and Vlasakova 2002). Linsley and Chemsak (Linsley and Chemsak 1984, 1997) also list *Salix*, a record apparently attributable to Beutenmüller (1896), but this surely refers to another species, possibly *P. parvulus* (LeConte).

Psenocerus supernotatus (Say). **MISSOURI**, Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 10–30.iv.1999 (1) *ex* dead branch *Crataegus viridis* cut 23.iv.1997 & coll. 23.iv.1998; Stoddard Co., Holly Ridge CA, T25N R11E S6 (NW¼), em. 1–7.v.2002 (1) *ex* dead branch *Salix nigra* cut 8.iv.2001 & coll. 31.iii.2002. This species has been reared from a large number of woody plants (Rice and Enns 1981; Gosling 1984a; Purrington and Horn 1993; MacRae 1994; Linsley and Chemsak 1997).

Saperda cretata Newman. **MISSOURI**, Carter Co., Grandin, T25N R2E S11, N36°50.301' W90°48.875', 10–17.v.2004 (2), P. O. Kaufman collr. [& TCMC]; **TEXAS**, Brazos Co., College Station, em. 7–11.iv.1983 (2) *ex* limbs *Crataegus* sp., M. E. Rice collr. These records represent substantial southwestern range extensions for this species, previously known only from the northeastern U.S. (Linsley and Chemsak 1995).

Saperda imitans Felt and Joutel. **IOWA**, Allamakee Co., Fish Farm Mounds State Preserve, 8.vi.2006 (1), on flower *Cornus* sp., M. E. Rice collr. Species in the genus *Saperda* are considered to be nocturnally active, are frequently attracted to light and are not known to be anthophilous—at least diurnally. The single adult male was collected on dogwood blooms between 2:20–4:30 p.m. (CDST).

Sternidius variegatus (Haldeman). To the many larval hosts already recorded for this species (Craighead 1923; Rice and Enns 1981; Gosling 1984a; Hovore *et al.* 1987; MacRae 1994; Vlasak and Vlasakova 2002; Linsley and Chemsak 1997) the following can be added: **MISSOURI**, Clark Co., Frost Island CA, Steyermark Prairie NA, T65N R6W S7 (SE¼), em. 25.vi–11.vii.2002 (6) *ex* dead branch *Gymnocladus dioica* coll. 7.iv.2002; Taney Co., Mincy CA, along Fox Creek,

T21N R20W S27, em. 1–7.vi.2002 (1) *ex* dead branch *Aesculus pavia* cut 7.iv.2001 & coll. 17.iii.2002.

Styloleptus biustus (LeConte). FLORIDA, Collier Co., Collier-Seminole SP, vic. boat ramp, em. 1–26.iv.1998 (1) *ex* dead branch *Conocarpus erectus* coll. 1.iii.1998. This polyphagous species has been recorded from a variety of plant genera (Kirk 1969; Turnbow and Hovore 1979; Rice 1985; Linsley and Chemsak 1997).

Tetraopes quinque maculatus Haldeman. MISSOURI, Barton Co., Prairie SP, Drover's Trail, T32N R33W S16 (SW¼), 22.vi.2002 (2), on foliage *Asclepias viridis* Walt.; Dade Co., Indigo Prairie CA, T30N R27W S4 (NE¼), 28.vi.1998 (1), on foliage *A. viridis*. This species has been collected on several *Asclepias* spp. (Chemsak 1963; Gosling and Gosling 1977; Price and Willson 1979; Gosling 1984a; Rice 1988), although their status as larval hosts is thus far only circumstantial. In Missouri adults are found primarily on *A. tuberosa* L. ssp. *interior* Woods. (Rice 1988; MacRae 1994), while in Illinois Price and Willson (1979) associated the species primarily with *A. amplexicaulis* Sm., suggesting the possibility of variable host utilization patterns across its range.

Urgleptes facetus (Say). MISSOURI, Shannon Co., Ozark NSR, Round Spring RA, Middle Access, vic. cpgd., T30N R4W S20 (NW¼), em. 22–31.v.2003 (1) *ex* dead branch *Salix exigua* coll. 1.v.2003. This species has also been reared from *Amelanchier arborea* (MacRae 1994).

Urgleptes querci (Fitch). A huge number of larval hosts have been recorded for this species (Steyskal 1951; Rice and Enns 1981; Gosling 1984a; Rice 1988; Purrington and Horn 1993; MacRae 1994; Vlasak and Vlasakova 2002; Linsley and Chemsak 1997), to which the following can be added: MISSOURI, Adair Co., Thousand Hills SP, along Hickory Trail, T62N R16W S11 (SE¼), em. 12.v–14.vi.2003 (2) *ex* dead branch *Aesculus glabra* coll. 7.iv.2003; Butler Co., Big Cane CA, vic. W parking lot, T22N R5E S35 (NW¼), em. 1–15.vii.2003 (1) *ex* dead branch *Betula nigra* coll. 21.iii.2003; Butler Co., Big Cane CA, vic. SE parking lot, T22N R5E S36 (NE¼), em. 21–31.vi.2004 (1) *ex* dead branch *Quercus bicolor* cut 21.iii.2003 & coll. 21.iii.2004; Clark Co., Battle of Athens SP, vic. playground, T67N R7W S30 (NE¼), em. 21.v–10.vi.2004 (2) *ex* dead branch *Prunus serotina* coll. 13.iii.2004; same locality, em. 1–10.v.2004 (1) *ex* dead branch *Acer negundo* coll. 13.iii.2004; Rose Pond CA, T64N R6W S13 (SW¼), em. 1–14.vi.2003 (1) *ex* dead branch *B. nigra* coll. 5.x.2002; Shannon Co., Ozark NSR, Round Spring RA, Middle Access, vic. cpgd., T30N R4W S20 (NW¼), em. 12–21.v.2003 (2) *ex* dead branch *Salix exigua* coll. 1.v.2003; St. Louis Co., Clarkson Valley, Jct Orville & Shepard Roads, em. 4–22.v.1997 (2) & 8–14.vi.1998 (1) *ex* dead branch *Carya alba* coll. 4.v.1997.

Urographis fasciatus (Degeer). MISSOURI, Barry Co., Mincy CA, along Fox Creek, em. 16–22.vi.2001 (1) *ex* 5" dia. dead branch *Quercus muhlenbergii* coll. 7.iv.2001. This species has been recorded breeding in a variety of deciduous hardwood genera (Gosling 1984a; MacRae 1994; Vlasak and Vlasakova 2002; Linsley and Chemsak 1997). *Pinus virginiana* was also recorded as a larval host (Perry 1975), but this may represent an “overflow” host (Hespenheide 1969).

Acknowledgments

Thanks to M. S. Arduser (Missouri Conservation Department, St. Charles); G. Balogh (Portage, Michigan), A. Becker (Missouri Department of Agriculture [MODA], Jefferson City); C. R. Brown, R. S. Thoma, and J. P. Uffman (Monsanto Company, Creve Coeur, Missouri); L. A. Cambre (Rolla, Missouri);

D. J. Heffern [DJHC] (Houston, Texas); N. J. Holmberg (Krakow, Missouri); P. O. Kaufman (Morristown, Arizona); G. H. Nelson (deceased); S. R. Penn (Monsanto Company, Chesterfield, Missouri); G. A. Salsbury (Kansas Department of Agriculture, Frontenac); K. Simpson and R. W. Sites (University of Missouri, Columbia); F. W. Skillman, Jr. (Cochise, Arizona); W. Smith (Hardtner, Kansas); K. Stephan (deceased); and D. W. Sundberg (San Antonio, Texas) for the loan or gift of specimens in their care. Thanks are also due to the Florida Department of Agriculture and Consumer Services (Plant Industry Division (Gainesville)); Missouri Department of Conservation (Natural History Program, Jefferson City); Missouri Department of Natural Resources (Division of State Parks, Jefferson City); Texas Department of Parks and Recreation (Natural Resources Program, Austin); and National Park Service (Big Bend National Park, Texas; Ozark National Scenic Riverway, Van Buren, Missouri) for permission to collect on lands under their stewardship. Special appreciation is extended to E. Dean, F. Hrusa, and J. M. Tucker (University of California, Davis); A. M. Powell and B. L. Turner (Sul Ross University, Alpine, Texas); M. Reed (Texas A&M University, College Station); Rev. J. M. Sullivan (Hazelwood, Missouri); R. E. Weaver (Florida State Collection of Arthropods, Gainesville), and G. Yatskiyevych (Missouri Botanical Garden, Flora of Missouri Project, St. Louis) for host plant identifications and assistance with plant nomenclature.

Literature Cited

- Alexander, D. R. 1957.** A preliminary survey of the cerambycids (Insecta: Coleoptera) of Oklahoma. Proceedings of the Oklahoma Academy of Sciences 38:43–52.
- Bayer, S. J., and R. D. Shenefelt. 1969.** Wisconsin Cerambycidae in the University of Wisconsin Insectarium. Research Division, College of Agricultural and Life Sciences, The University of Wisconsin, Research Bulletin 275. 48 pp.
- Belyea, R. M. 1952.** Death and deterioration of balsam fir weakened by spruce budworm defoliation in Ontario. The Canadian Entomologist 84:325–335.
- Beutenmüller, W. 1896.** Food-habits of North American Cerambycidae. Journal of the New York Entomological Society 4:73–81.
- Blatchley, W. S. 1910.** An Illustrated Descriptive Catalogue of the Coleoptera or Beetles (Exclusive of the Rhyncophora) Known to Occur in Indiana With Bibliography and Descriptions of New Species. Nature Publishing Co., Indianapolis, Indiana. 1386 pp.
- Blatchley, W. S. 1919.** Some new or scarce Coleoptera from western and southern Florida.—III. The Canadian Entomologist 51:65–69.
- Boldt, P. E., and T. O. Robbins. 1987.** Phytophagous and pollinating insect fauna of *Baccharis neglecta* (Compositae) in Texas. Environmental Entomology 16:887–895.
- Boldt, P. E., and T. O. Robbins. 1990.** Phytophagous and flower-visiting insect fauna of *Baccharis salicifolia* (Asteraceae) in the southwestern United States and northern Mexico. Environmental Entomology 19:515–523.
- Burne, J. C. 1998.** Notes on the Cerambycidae of Georgia III. The Coleopterists Bulletin 52:393.
- Champlain, A. B., H. B. Kirk, and J. N. Knull. 1925.** Notes on Cerambycidae (Coleoptera). Entomological News 36(4):105–109, 139–142.
- Champlain, A. B., and J. N. Knull. 1932.** Fermenting bait traps for trapping Elateridae and Cerambycidae (Coleop.). Entomological News 43:253–257.
- Chemsak, J. A. 1961.** A new species of *Purpuricenus* from Texas (Coleoptera: Cerambycidae). The Pan-Pacific Entomologist 37:183–184.
- Chemsak, J. A. 1963.** Taxonomy and bionomics of the genus *Tetraopes* (Cerambycidae: Coleoptera). University of California Publications in Entomology 30: 1–90.
- Chemsak, J. A. 1984.** Description of a new purpuricine genus, *Linsleyella* (Coleoptera: Cerambycidae). The Pan-Pacific Entomologist 60:114–118.

- Chemsak, J. A., and E. G. Linsley. 1973.** The genus *Mecas* LeConte (Coleoptera: Cerambycidae). Proceedings of the California Academy of Sciences (series 4) 39:141–184.
- Chemsak, J. A., and F. A. Noguera. 1993.** Annotated checklist of the Cerambycidae of the Estación de Biología Chamela, Jalisco, Mexico (Coleoptera), with descriptions of new genera and species. Folia Entomológica Mexicana 89:55–102.
- Cope, J. 1984.** Notes on the ecology of western Cerambycidae. The Coleopterists Bulletin 38:27–36.
- Craighead, F. C. 1923.** North American cerambycid larvae. A classification and the biology of North American cerambycid larvae. Dominion of Canada, Ottawa, Department of Agriculture, Technical Bulletin, No. 27 (new series). 239 pp.
- Dean, H. A. 1953.** Long-horned beetles that attack citrus in the Lower Rio Grande Valley of Texas. Journal of Economic Entomology 46:174.
- Deyrup, M. 1977.** Notes on habitats and parasitoids of some Cerambycidae of western Washington. The Coleopterists Bulletin 31:181–182.
- Evenhuis, N. L., and G. A. Samuelson. 2004.** The insect and spider collections of the world website. <http://hbs.bishopmuseum.org/codens/codens-r-us.html> (accessed 9 January 2006).
- Gardiner, L. M. 1961.** Immature stages and biology of *Hyperplatys* spp. (Coleoptera: Cerambycidae) in eastern Canada. The Canadian Entomologist 93:1011–1016.
- Giesbert, E. F., and J. A. Chemsak. 1993.** A Review of the Rhopalophorini of North and Central America. Insecta Mundi 7:27–64.
- Giesbert, E. F., and J. A. Chemsak. 1997.** A review of the genus *Euderces* LeConte (Coleoptera: Cerambycidae: Tillomorphini). Proceedings of the California Academy of Sciences 49:211–286.
- Gosling, D. C. L. 1973.** An annotated list of the Cerambycidae of Michigan (Coleoptera) part I, introduction and the subfamilies Parandrinae, Prioninae, Spondyliinae, Aseminae, and Cerambycinae. The Great Lakes Entomologist 6:65–84.
- Gosling, D. C. L. 1984a.** Cerambycid host plants in a southwestern Michigan woodland (Coleoptera: Cerambycidae). The Great Lakes Entomologist 17:69–78.
- Gosling, D. C. L. 1984b.** Flower records for anthophilous Cerambycidae in a southwestern Michigan woodland (Coleoptera). The Great Lakes Entomologist 17:79–82.
- Gosling, D. C. L., and N. M. Gosling. 1977.** An annotated list of the Cerambycidae of Michigan (Coleoptera). Part II, the subfamilies Lepturinae and Lamiinae. The Great Lakes Entomologist 10 (1976):1–37.
- Haldeman, S. S. 1847.** Material towards a history of the Coleoptera Longicornia of the United States. Transactions of the American Philosophical Society 10:27–66.
- Hanley, G. A. 2005.** Cerambycidae of North Dakota: An atlas and identification guide. Minot State University, Cyril Moore Science Center, Monograph 3. 105 pp.
- Heffern, D. J. 1998.** A survey of the Cerambycidae (Coleoptera), or longhorned beetles of Colorado. Contributions of the C. P. Gillette Museum of Arthropod Diversity, Department of Bioagricultural Sciences and Pest Management, Colorado State University. 32 pp.
- Hespenheide, H. A. 1969.** Larval feeding site of species of *Agrilus* (Coleoptera) using a common host. Oikos 20:558–561.
- Hicks, S. D. 1962.** The genus *Oberea* Mulsant, with notes on the taxonomy, variation and host-affinities of many of the species. The Coleopterists Bulletin 16:5–12.
- Holland, J. D. 2006.** Cerambycidae larval host condition predicts trap efficiency. Environmental Entomology 35:1647–1653.
- Horn, G. H. 1885.** Synonymical notes. Transactions of the American Entomological Society 12:5–9.
- Hovore, F. T. 1984.** Taxonomic and biological observations on southwestern Cerambycidae (Coleoptera). The Coleopterists Bulletin 37 (1983):379–387.
- Hovore, F. T. 1989.** Additions to the cerambycid beetle fauna of Baja California, Mexico: Records and descriptions (Coleoptera: Cerambycidae). The Wasmann Journal of Biology 46:1–29.

- Hovore, F. T., and E. F. Giesbert. 1976.** Notes on the ecology and distribution of western Cerambycidae (Coleoptera). *The Coleopterists Bulletin* 30:349–360.
- Hovore, F. T., and R. L. Penrose. 1982.** Notes on Cerambycidae co-inhabiting girdles of *Oncideres pustulata* LeConte (Coleoptera: Cerambycidae). *The Southwestern Naturalist* 27:23–27.
- Hovore, F. T., R. L. Penrose, and E. F. Giesbert. 1978.** Notes on North American Cerambycidae (Coleoptera). *Entomological News* 89:95–100.
- Hovore, F. T., R. L. Penrose, and R. W. Neck. 1987.** The Cerambycidae, or longhorned beetles, of southern Texas: A faunal survey (Coleoptera). *Proceedings of the California Academy of Sciences* 44:283–334.
- ICZN. 1999.** International Code of Zoological Nomenclature, Adopted by the International Union of Biological Sciences (4th). International Trust for Zoological Nomenclature, London. 306 pp.
- Kartesz, J. T., and C. A. Meacham. 1999.** Synthesis of the North American Flora, Version 1.0. North Carolina Botanical Garden, Chapel Hill [CD-ROM].
- Kirk, V. M. 1969.** A list of the beetles of South Carolina. Part 1 – Northern Coastal Plain. Clemson University, Clemson, SC, South Carolina Agricultural Experiment Station, Technical Bulletin 1033. 124 pp.
- Kirk, V. M. 1970.** A list of the beetles of South Carolina. Part 2 – Mountain, Piedmont, and Southern Coastal Plain. Clemson University, Clemson, SC, South Carolina Agricultural Experiment Station, Technical Bulletin 1038. 117 pp.
- Knoll, J. N. 1930.** Notes on Coleoptera No. 2. *Entomological News* 41:101–102.
- Knoll, J. N. 1932.** Notes on Coleoptera No. 3. *Entomological News* 43:62–67.
- Knoll, J. N. 1934.** Notes on Coleoptera No. 4. *Entomological News* 45:207–212.
- Knoll, J. N. 1936.** Five new southwestern Coleoptera (Buprestidae and Cerambycidae). *Entomological News* 47:105–108.
- Knoll, J. N. 1946.** The long-horned beetles of Ohio (Coleoptera: Cerambycidae). *Ohio Biological Survey Bulletin* 39:133–354.
- LeConte, J. L. 1850.** An attempt to classify the longicorn Coleoptera of the part of America north of Mexico (Part 1). *Journal of the Academy of Natural Sciences Philadelphia* (ser. 2) 1:311–340.
- LeConte, J. L. 1880.** The coleopterous parasites of the common hickory (*Carya tomentosa*). *American Entomologist* (N.S.) 3:236–237.
- Leng, C. W. 1886.** Synopses of Cerambycidae. *Entomologia Americana* 2:27–32.
- Leng, C. W. 1890.** Synopses of Cerambycidae. *Entomologia Americana* 6:185–200.
- Leng, C. W., and J. Hamilton. 1896.** The Lamiinae of North America. *Transactions of the American Entomological Society* 28:101–178.
- Lewis, A. E. 1979.** A list of Cerambycidae from the Hualapai Mts. Mojave Co., Arizona. *The Pan-Pacific Entomologist* 55:21–26.
- Lewis, A. E. 1986.** The *Sternidius* of America north of Mexico. *The Pan-Pacific Entomologist* 62:171–202.
- Lingafelter, S. W., and N. V. Horner. 1993.** The Cerambycidae of north-central Texas. *The Coleopterists Bulletin* 47:159–191.
- Linsley, E. G. 1933.** A European longicorn new to California (Coleoptera Cerambycidae). *The Pan-Pacific Entomologist* 9:170.
- Linsley, E. G. 1935.** A revision of the Pogonocherini of North America. *Annals of the Entomological Society of America* 28:73–103.
- Linsley, E. G. 1936.** Preliminary studies in the North American Phoracanthini and Sphaerionini (Coleoptera, Cerambycidae). *Annals of the Entomological Society of America* 29:461–479.
- Linsley, E. G. 1940a.** A revision of the North American Necydalini. *Annals of the Entomological Society of America* 33:269–281.
- Linsley, E. G. 1940b.** Notes and descriptions of West American Cerambycidae – IV (Coleoptera). *Entomological News* 51:253–258.
- Linsley, E. G. 1957.** New subspecies of Cerambycidae mostly from the southwestern United States. *The Coleopterists Bulletin* 11:33–36.

- Linsley, E. G. 1962.** The Cerambycidae of North America. Part III. Taxonomy and classification of the subfamily Cerambycinae, tribes Opsimini through Megaderini. University of California Publications in Entomology 20:1-188, 56 figs.
- Linsley, E. G. 1963.** The Cerambycidae of North America. Part IV. Taxonomy and classification of the subfamily Cerambycinae, tribes Elaphidionini through Rhinotragini. University of California Publications in Entomology 21:1-165, 52 figs.
- Linsley, E. G. 1964.** The Cerambycidae of North America. Part V. Taxonomy and classification of the subfamily Cerambycinae, tribes Callichromini through Ancylocerini. University of California Publications in Entomology 22:1-197, 60 figs., 1 pl.
- Linsley, E. G., and J. A. Chemsak. 1961.** A distributional and taxonomic study of the genus *Crossidius* (Coleoptera, Cerambycidae). Miscellaneous Publications of the Entomological Society of America 3:25-64.
- Linsley, E. G., and J. A. Chemsak. 1972.** The Cerambycidae of North America. Part VI, No. 1. Taxonomy and classification of the subfamily Lepturinae. University of California Publications in Entomology 69:viii + 1-138, 41 figs., 2 pls.
- Linsley, E. G., and J. A. Chemsak. 1976.** The Cerambycidae of North America. Part VI, No. 2. Taxonomy and classification of the subfamily Lepturinae. University of California Publications in Entomology 80:ix + 1-186, 50 figs.
- Linsley, E. G., and J. A. Chemsak. 1984.** The Cerambycidae of North America, Part VII, No. 1: Taxonomy and classification of the subfamily Lamiinae, tribes Parmenini through Acanthoderini. University of California Publications in Entomology 102:ix + 1-258, 57 figs.
- Linsley, E. G., and J. A. Chemsak. 1995.** The Cerambycidae of North America, Part VII, No. 2: Taxonomy and classification of the subfamily Lamiinae, tribes Acanthocini through Hemilophini. University of California Publications in Entomology 114:xi + 1-292, 55 figs.
- Linsley, E. G., and J. A. Chemsak. 1997.** The Cerambycidae of North America, Part VIII: Bibliography, index, and host plant index. University of California Publications in Entomology 117:ix + 1-534.
- Linsley, E. G., J. N. Knull, and M. Statham. 1961.** A list of Cerambycidae from the Chiricahua Mountain area, Cochise County, Arizona. American Museum Novitates 2050:1-34.
- Linsley, E. G., and J. O. Martin. 1933.** Notes on some longicorns from subtropical Texas (Coleop.: Cerambycidae). Entomological News 44:178-183.
- MacKay, W. P., J. C. Zak, and F. T. Hovore. 1987.** Cerambycid beetles (Coleoptera: Cerambycidae) of the northern Chihuahua Desert (south central New Mexico). The Coleopterists Bulletin 41:358-360.
- MacRae, T. C. 1994.** Annotated checklist of the longhorned beetles (Coleoptera: Cerambycidae and Disteniidae) occurring in Missouri. Insecta Mundi 7 (1993): 223-252.
- MacRae, T. C. 2000.** Review of the genus *Purpuricenus* Dejean (Coleoptera: Cerambycidae) in North America. The Pan-Pacific Entomologist 76:137-169.
- MacRae, T. C. 2001.** Correction to holotype deposition of *Purpuricenus linsleyi* Chemsak (Coleoptera: Cerambycidae). The Pan-Pacific Entomologist 77:281.
- Manley, G. V., and J. V. French. 1976.** Wood boring beetles inhabiting citrus in the lower Rio Grande Valley of Texas. Journal of the Rio Grande Valley Horticultural Society 30:45-53.
- Nebeker, T. E., T. D. Leininger, J. S. Meadows, and M. D. Warriner. 2005.** Thinning southern bottomland hardwood stands: Insect and disease considerations [pp. 467-477]. In: Ecology and Management of Bottomland Hardwood Systems: The State of Our Understanding (L. H. Fredrickson, S. L. King, and R. M. Kaminski, editors). Gaylord Memorial Laboratory Special Publication No. 10, University of Missouri-Columbia, Puxico.
- Newman, E. 1840.** Entomological notes. Entomologist 2:17-32.

- Palmer, W. A. 1987.** The phytophagous insect fauna associated with *Baccharis halmifolia* L. and *Baccharis neglecta* Britton in Texas, Louisiana, and northern Mexico. Proceedings of the Entomological Society of Washington 89:185–199.
- Penrose, R. L., and R. L. Westcott. 1974.** Lepturine longhorns collected on chinquapin bloom (Coleoptera: Cerambycidae). The Pan-Pacific Entomologist 50:72.
- Perry, R. H. 1975.** Notes on the long-horned beetles of Virginia, part III (Coleoptera: Cerambycidae). The Coleopterists Bulletin 29:59.
- Perry, R. H., R. W. Surdick, and D. M. Anderson. 1974.** Observations on the biology, ecology, behavior, and larvae of *Dryobius sexnotatus* Linsley (Coleoptera: Cerambycidae). The Coleopterists Bulletin 28:169–176.
- Price, P. W., and M. F. Willson. 1979.** Abundance of herbivores on six milkweed species in Illinois. The American Midland Naturalist 101:76–89.
- Purrington, F. F., and D. J. Horn. 1993.** Canada moonseed vine (Menispermaceae): Host of four roundheaded wood borers in central Ohio (Coleoptera: Cerambycidae). Proceedings of the Entomological Society of Washington 95:313–320.
- Rice, M. E. 1981.** Notes on Cerambycidae from Missouri. The Coleopterists Bulletin 35:459–462.
- Rice, M. E. 1985.** New host associations for Cerambycidae (Coleoptera) from selected species of Leguminosae and Rutaceae. Journal of the New York Entomological Society 93:1223–1225.
- Rice, M. E. 1988.** Natural history observations on *Tetraopes* and other Cerambycidae (Coleoptera) from the Great Plains ecosystem. Journal of the Kansas Entomological Society 61:412–419.
- Rice, M. E., and W. R. Enns. 1981.** The longhorn beetle subfamily Lamiinae (Coleoptera: Cerambycidae) in Missouri. Transactions of the Missouri Academy of Sciences 15:89–109.
- Rice, M. E., and R. F. Morris. 1992.** *Megacyllene comanchei*, a new species of longhorned beetle (Cerambycidae: Coleoptera) from Texas. Journal of the Kansas Entomological Society 65:200–202.
- Rice, M. E., R. H. Turnbow, and F. T. Hovore. 1985.** Biological and distributional observations on Cerambycidae from the southwestern United States (Coleoptera). The Coleopterists Bulletin 39:18–24.
- Rice, M. E., and D. A. Veal. 2006.** New distribution and adult host records for longhorned beetles (Cerambycidae) from Iowa. The Coleopterists Bulletin 60:255–263.
- Riley, C. V. 1880.** Food habits of the longicorn beetles or wood borers. The American Entomologist 3:237–239, 270–271.
- Say, T. 1824.** Descriptions of coleopterous insects collected in the late expedition to the Rocky Mts., performed by order of Mr. Calhoun, Secretary of War, under the command of Major Long. Journal of the Academy of Natural Sciences of Philadelphia 3:298–331.
- Schiefer, T. L. 1998a.** A preliminary list of the Cerambycidae and Disteniidae (Coleoptera) of Mississippi. Transactions of the American Entomological Society 124:113–131.
- Schiefer, T. L. 1998b.** Disjunct distribution of Cerambycidae (Coleoptera) in the Black Belt Prairie and Jackson Prairie in Mississippi and Alabama. The Coleopterists Bulletin 52:278–284.
- Schiefer, T. L. 2001.** Additions and correction to the list of Cerambycidae (Coleoptera) of Mississippi. Entomological News 112:334–336.
- Schwitzgebel, R. B., and D. A. Wilbur. 1942.** Coleoptera associated with ironweed, *Vernonia interior* Small in Kansas. Journal of the Kansas Entomological Society 15:37–44.
- Shockley, F. W., and A. R. Cline. 2004.** A contribution to the inventory of Coleoptera of Missouri: New records from Benton County. Journal of the Kansas Entomological Society 77:280–284.
- Sikes, D. S. 2004.** The beetle fauna of Rhode Island - an annotated checklist. The Rhode Island Natural History Survey, Kingston. 296 pp.
- Sikes, D. S., and R. P. Webster. 2005.** Bioinventory of Rhode Island Coleoptera: 45 new records. The Coleopterists Bulletin 59:311–327.

- Skiles, D. D. 1985.** New genera and species of elaphidionine Cerambycidae (Coleoptera) from North America and the West Indies. *The Coleopterists Bulletin* 39:305–320.
- Smith, L. L., and D. N. Ueckert. 1974.** Influence of insects on mesquite seed production. *Journal of Range Management* 27:61–65.
- Solomon, J. D. 1982.** Annotations of selected insect borers of living hardwood trees and other woody plants from “Cooperative Plant Pest Reports”. U.S.D.A. Forest Service, Southern Forest Experiment Station, in cooperation with Mississippi Agricultural & Forestry Experiment Station, Information Bulletin 32. 39 pp.
- Steyskal, G. 1951.** Insects feeding on plants of the *Toxicodendron*-section of the genus *Rhus* (poison oak, ivy, or sumac). *The Coleopterists Bulletin* 5:75–77.
- Szafranski, P. 2002.** New host plant and distributional records from some *Eburia* Lepeletier & Audinet-Serville (Coleoptera: Cerambycidae) in North America including Mexico. *The Pan-Pacific Entomologist* 78:66–67.
- Toledo, V. H., F. A. Noguera, J. A. Chemsak, F. T. Hovore, and E. F. Giesbert. 2002.** The cerambycid fauna of the tropical dry forest of “El Aguacero,” Chiapas, México (Coleoptera: Cerambycidae). *The Coleopterists Bulletin* 56:515–532.
- Turnbow, R. H., and R. T. Franklin. 1980.** An annotated checklist of the Cerambycidae of Georgia (Coleoptera). *Journal of the Georgia Entomological Society* 15:337–349.
- Turnbow, R. H., and F. T. Hovore. 1979.** Notes on Cerambycidae from the southeastern U.S. (Coleoptera). *Entomological News* 90:219–229.
- Turnbow, R. H., and J. E. Wappes. 1978.** Notes on Texas Cerambycidae (Coleoptera). *The Coleopterists Bulletin* 32:367–372.
- Turnbow, R. H., and J. E. Wappes. 1981.** New host and distributional records for Texas Cerambycidae (Coleoptera). *Southwestern Entomologist* 6:75–80.
- Tyson, W. H. 1966.** Notes on reared Cerambycidae (Coleoptera). *The Pan-Pacific Entomologist* 42:201–207.
- Tyson, W. H. 1970a.** Notes on the host, larval habits, and parasites of two Texas cerambycids (Coleoptera). *Proceedings of the Entomological Society of Washington* 72:93.
- Tyson, W. H. 1970b.** The Cerambycidae of the Panamint Mts., California (Coleoptera). *The Pan-Pacific Entomologist* 46:296–299.
- Van Pelt, A. F. 1999.** An Annotated Inventory of the Insects of Big Bend National Park, Texas. Big Bend Natural History Association, Big Bend National Park, Texas. 119 pp.
- Vlasak, J., and K. Vlasakova. 2002.** Records of Cerambycidae (Coleoptera) in Massachusetts with notes on larval hosts. *The Coleopterists Bulletin* 56:203–219.
- Vogt, G. B. 1949.** Notes on Cerambycidae from the lower Rio Grande Valley, Texas (Coleoptera). *The Pan-Pacific Entomologist* 25:137–144, 176–184.
- Westcott, R. L., J. R. LaBonte, G. L. Parsons, and P. J. Johnson. 2006.** New records and other notes for Oregon Coleoptera. *Zootaxa* 1142:1–33.
- Wheeler, A. G., and E. R. Hoebeke. 1985.** The insect fauna of ninebark, *Physocarpus opulifolius* (Rosaceae). *Proceedings of the Entomological Society of Washington* 87:356–370.
- Wilson, D. A. 1971.** Notes and observations on Lepturini in New England (Coleoptera: Cerambycidae). *The Coleopterists Bulletin* 25:59–62.
- Yanega, D. 1996.** Field guide to northeastern longhorned beetles (Coleoptera: Cerambycidae). Illinois Natural History Survey, Champaign, Manual 6. 174 pp.

(Received 1 March 2007; accepted 16 April 2007. Publication date 26 July 2007.)