

**MISCELLANEOUS NOTES ON BUPRESTIDAE AND SCHIZOPODIDAE
OCCURRING IN THE UNITED STATES AND CANADA, INCLUDING
DESCRIPTIONS OF PREVIOUSLY UNKNOWN SEXES OF
SIX *AGRILUS* CURTIS (COLEOPTERA)**

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Abstract

New distribution and/or biological information is presented for 67 species in the following genera of Buprestidae: *Acmaeodera* Eschscholtz, *Actenodes* Lacordaire, *Agrilus* Curtis, *Anthaxia* Eschscholtz, *Brachys* Solier, *Chrysobothris* Eschscholtz, *Cypriacis* Casey, *Dicerca* Eschscholtz, *Lampetis* Spinola, *Mastogenius* Solier, *Melanophila* Eschscholtz, *Micrasta* Kerremans, *Polycesta* Solier, *Spectralia* Casey, and *Taphrocerus* Solier and *Schizopus laetus* LeConte of the Schizopodidae. Unknown sexes are described of the following: *Agrilus diospyroides* Knull, *A. eleanorae* Fisher, *A. horni* Kerremans, *A. ohioensis* Knull, *A. osburni* Knull, and *A. pubifrons* Fisher. *Melanophila arcuata* Fall is placed in **new synonymy** under *M. lecontei* Obenberger.

In the following notes, abbreviations of collections follow Arnett *et al.* (1993) or as given in the acknowledgments. New state/provincial records are indicated in ALL CAPS, and new host records in **bold** as in new synonymy. The generic and species entries are in alphabetical order.

Buprestidae

Acmaeodera robigo Knull. One specimen was dug from its pupal cell in the base of ***Dalea*** formosa Torr., Texas, Crosby Co., White River Lake, 5-X-90, GHNC.

Acmaeodera tubulus (Fabricius). OHIO, Pike Co., Pike Lake State Park, 15-V-91, RAAC.

Actenodes acornis (Say). MacRae (1991) reported that adults of this species emerged from dead *Fagus americana* Sweet [= *F. grandifolia* Ehrh.]. The host was, in reality, ***Fagus sylvatica*** L.

Actenodes davidi Nelson. OHIO, Allen Co., Cairo, 28-VI-91, TCMC; OKLAHOMA, Latimer Co., VII-90, found dead, KHSC.

Agrilus abditus Horn. NEW MEXICO, Grant Co., 16 mi N Silver City, (2, 3)-VI-90, adults on ***Quercus arizonica*** Sarg. sprouts, GCWC, GHNC; Otero Co., 4 mi N Cloudcroft, (8, 9)-VII-80, GHNC.

Agrilus anxius Horn. GEORGIA, Union Co., Brasstown Bald, (5–8)-VI-81, RLWE.

Agrilus bilineatus carpini Knull. OHIO, Ashland Co., Mohican State Park, 11-V-85, RAAC.

Agrilus chiricahuae Fisher. NEW MEXICO, Iron Creek Camp, 14-VII-75, L. G. Bezark Coll.

Agrilus crataegi Frost. OHIO, Hocking Co., Conkles Hollow, emerged 21-VI-88 from *Crataegus*, RAAC.

Agrilus cupreus Redtenbacher. OREGON, Union Co., LaGrande, reared from stems coll. 3-V-95: em. *Rosa nutkana* var. *hispida* Fern., (20–24)-V-95; em. cultivated raspberry, *Rubus* sp., (24–30)-V-95, ODAC, OSUO, RLWE (Also, larvae and damage to stems of *R. woodsii* var. *ultramontana* (Wats.) Jeps. were noted); SOUTH DAKOTA, Lawrence Co., Spearfish, 6-VI-86, WFBC; NEW BRUNSWICK, Cherry Co., Valentina Nat. Wildlife Ref., 9-VI-82, CUIC. Known as the “rose stem girdler,” this species was first found in the U.S. in New Jersey, 1923 (Fisher 1928), and is now widespread, particularly east of the Rockies. It has been known in Utah since 1955 (Davis and Rughvir 1964). In Idaho it was first noted in the southeastern part of the state (Franklin Co.) in 1973 (Anonymous 1975). According to Larry Sandvol, University of Idaho Experiment Station, Aberdeen (pers. comm.) it is fairly common in Blaine Co. and has been known there for about 15 years. There is sufficient host continuum from those areas through NE Oregon to account for spread on its own. However, survey is necessary to determine if that is the likely method or if the transport of backyard raspberry plants accounts for its occurrence. Although it was first noted in LaGrande during 1994, the species seems to be well established. This beetle has been most recently known as *A. aurichalceus* Redtenbacher. However, as can be seen by consulting the references we provide, its nomenclature has tread a tortuous path and we follow the synonymy indicated in Alexeev (1989).

Agrilus cyanescens (Ratzeburg). COLORADO, Larimer Co., N of Fort Collins, (24, 25)-V-93, on *Symphoricarpos*, CSUC, GHNC; VIRGINIA, Russell Co. Rd. 641, 21-V-93, GHNC; WEST VIRGINIA, Mingo Co., Laurel Fk. Hunting Area, 25-V-93, GHNC.

Agrilus defectus LeConte. OHIO, Vinton Co., Lake Hope State Park, 10-V-88, RAAC.

Agrilus diospyroides Knull 1942:390. Four male specimens from Tennessee, Great Smoky Mountains National Park, formed the type series of this species. The female is similar to the male but differs as follows: front of head brownish-copper, greenish-blue in male; tibiae unarmed at apex; first two abdominal sterna convex, flattened with slight midline sulcus in male. Described from a female collected in Missouri, Boone Co., Rock Bridge State Park, 4-VI-79, GHNC).

Agrilus egenus Gory. ARKANSAS, Logan Co., Mt. Magazine, electronics site, 14-V-94, EGRC; COLORADO, Boulder Co., 7-VIII-91; El Paso Co., Boone Rd./Meyers, 1-VII-92, all on *Robinia pseudo-acacia* L., CSUC, GHNC.

Agrilus eleanorae Fisher 1928:320. This species was described from two males collected in Texas, Devil’s River. The female differs from the male as follows: front of head brownish-copper as rest of body, in male bronzy-green; pro and mesotibiae without tooth apically; first and second abdominal sterna convex, longitudinally sulcate in male. Described from a female collected in Texas, Uvalde, 14-VI-32, GHNC.

Agrilus fallax Say. COLORADO, Phillips Co., Holyoke, VIII-88, from hackberry, CSUC.

Agrilus geminatus (Say). ARKANSAS, Logan Co., Mt. Magazine, electronics site, 14-V-94, EGRC.

Agrilus horni Kerremans 1900:341. Horn described this species as *A. blanchardi* (name preoccupied), supposedly from several specimens. When Fisher (1928) revised *Agrilus* he could find only a single male type specimen. Carlson and Knight (1969) published on the biology of this species, but did not describe the female. The female is similar to the male but differs as follows: front of head dark coppery-brown as rest of body, bronzy-green in male; first two abdominal sterna convex, in male with midline sulcus. Described from a female collected in Michigan, Ingham Co., T4N RIE S16, 16-VI-69, GHNC.

Agrilus howdeni Knull. According to Knull (1957) this species should key to *A. abductus* Horn in Fisher (1928). In our opinion this is misleading and probably resulted from a wrong interpretation of couplet 88. From there one should proceed to couplet 89 (not 113, as Knull apparently did), in which case *A. howdeni* will key to *A. exiguellus* Fisher.

Agrilus impexus Horn. NEW MEXICO, Hidalgo Co., 12.2 mi W Animas, 29-VII-87, *Prosopis juliflora* [*P. glandulosa* var. *torreyana* (L. Benson) M. C. Johnston], CDAE.

Agrilus malvastri Fisher. CALIFORNIA, San Bernardino Co., Deer Spr. Corral, near Cima, 22-V-93, on *Eriogonum fasciculatum* Benth., GCWC.

Agrilus masculinus Horn. MONTANA, Fallon Co., 16 mi N Baker, 3.5 mi S Co. line on Hwy. 7, 16-VI-89, MTEC. Apparently this represents the westernmost locality recorded for this species.

Agrilus nigricans Gory. NEW YORK, Ontario Co., Geneva, 20-VI-87; OKLAHOMA, Latimer Co., III-86, both GHNC.

Agrilus oblongus Fisher. TENNESSEE, Reelfoot Lake, 2-VI-54, RLWE.

Agrilus ohioensis Knull 1951:89. The description of this species was based on three male specimens, the holotype from Ohio, Delaware Co. The female is similar to the male but differs as follows: front of head brassy-copper; surface less granulose and less densely pubescent than male; tibiae unarmed at apex; first abdominal sternum convex, second slightly flattened, the two being longitudinally concave in the male. Described from a female collected in Georgia, Clarke Co., Whitehall Forest, 4-VI-75, GHNC.

Agrilus osburni Knull 1937:38. This species was described from two male specimens collected in Ohio, Put-in-Bay. The female differs from the male as follows: front of head, antennae and legs brassy-black, greenish-blue in male; tibiae unarmed at apex; first two abdominal sterna convex, longitudinally grooved in male. Described from a female collected in CANADA, QUEBEC, Lac Pinks Co., Parc Gatineau, 17-VII-71, GHNC.

Agrilus parvus Saunders. OHIO, Franklin Co., Columbus, Tuttle Park, 1-VII-86, RAAC.

Agrilus politus politus Say. TEXAS, Matagorda Co., 3 mi E of Blessing, 11-VI-89, RAAC.

Agrilus pubifrons Fisher 1928:237. ARIZONA, 20 mi E Tuba City, 22-VIII-37; COLORADO, Glenwood Springs, VII, both CASC. This species was described from two females, the holotype from Idaho, Pocatello, and a paratype from Utah, Chad's [Chadburn] Ranch. To our knowledge, the male has not been described. It is similar to the female but differs as follows: slightly more slender with sides of abdomen less visible when viewed from above; pro- and mesotibiae with slight tooth on inner side at apex; first abdominal sternum and

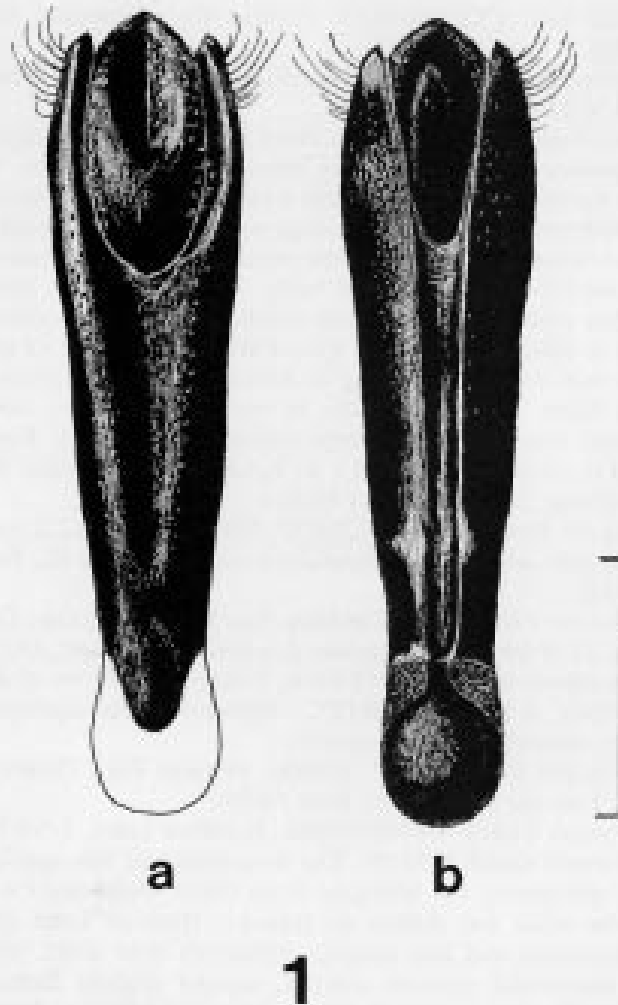


Fig. 1. *Agrilus pubiventris*, male genitalia, a) dorsal, b) ventral.

anterior half of second with midline groove. Male genitalia (Fig. 1). Described from a male from Utah, Washington Co., 22 mi N St. George, nr. Veyo, Chadburn Ranch, 13-VII-78, GHNC.

Agrilus putillus Say. ARKANSAS, Logan Co., Mt. Magazine, electronics site, 14-V-94, EGRC.

Agrilus quadriguttatus quadriguttatus Gory. OHIO, Ross Co., Rt. 50 at Scioto River, 4-VII-89, RAAC.

Agrilus quadriimpressus Ziegler. OHIO, Ashland Co., Mohican State Park, 23-V-87, RAAC; Lucas Co., Swanton, 6-VI-92, on *Quercus*, JAGC.

Agrilus subcinctus Gory. ARKANSAS, Logan Co., Mt. Magazine, East End Recreation Area, 14-V-94, EGRC.

Anthaxia (Haplanthaxia) fisheri Obenberger. OHIO, Pike Co., Pike Lake State Park, 24-VI-89, RAAC.

Anthaxia (Haplanthaxia) viridicornis (Say). COLORADO, Larimer Co., Fort Collins, Poudre R., 12-VII-93, CSUC, GHNC.

Brachys aerosus Meisheimer. OHIO, Allen Co., Cairo, 12-VI-94, JAGC; Ashland Co., Mohican State Park, 29-V-81, 24-V-86, 25-V-87, RAAC; Guernsey Co., Salt Fork State Park, 29-V-78, RAAC; Lucas Co., Whitehouse, 30-V-94, JAGC; Scioto Co., Shawnee State Park, 26-IV-87, beating *Ulmus*, RAAC; Vinton Co., Lake Hope State Park, 12-VII-87, 28-V-88, RAAC; Zaleski, 20-V-94, JAGC.

Brachys ovatus (Weber). OHIO, Vinton Co., Lake Hope State Park, 28-V-88, RAAC.

Chrysobothris adelpha Gemminger and Harold. Reared from cut wood of *Prosopis glandulosa* Torr., Texas, Mason Co., TX Hwy. 29, 16 mi NW Mason, 11-VII-86, em. 6-VII-88, USNM.

Chrysobothris analis LeConte. Reared I-VI- to 2-VI-77 from *Juglans major* (Torrey) Heller, and *Sapindus*, 7-VI-79, Arizona, Cochise Co., Guadalupe Canyon, 1320 m. CIDA.

Chrysobothris azurea LeConte. MONTANA, Carter Co., 5 mi W Alzada, 30-VI- to 31-VIII-89, malaise in oak forest, MTEC.

Chrysobothris chiricahuae Knull. This species has been known only from high elevations in the Chiricahua Mts. of far southeastern Arizona. One specimen is at hand from Arizona, Pima Co., Mt. Lemmon Lumber Camp, 29-V-82, RLWE.

Chrysobothris chlorocephala Gory. OKLAHOMA, Latimer Co., VI-88, KHSC.

Chrysobothris cribraria Mannerheim. OHIO, Lucas Co., Oak Openings, 19-VI-88, RAAC; Vinton Co., Lake Hope State Park, em. 15-V-88 ex Pinus, RAAC.

Chrysobothris fiskei Fisher. COLORADO, Lincoln Co., W of Alto, Little Horseshoe on Ski Apache Road, 29-VII-95, on *Quercus gambelii*, GHNC; OKLAHOMA, Latimer Co., VI-87, KHSC, GHNC.

Chrysobothris harrisi (Hentz). TENNESSEE, Cumberland Co., Crossville, 1-VII-87, TCMC.

Chrysobothris iris Van Dyke. This species was described from Utah and has also been recorded from Nevada and Arizona. The following record greatly extends the eastern limit of its known distribution: TEXAS, Jeff Davis Co., Davis Mountains Resort, 4.6 mi N of Hwy. 166, 5800' and Limpia Canyon, 5650', 19-VI-1994, on recently cut branches of *Juniperus depeana* Steud., TCMC.

Chrysobothris merkelii Horn. NEVADA, Clark Co., 20 mi NW Moapa, 6-VI-60; Las Vegas, reared from *Albizia julibrissin* Durazzini, 30-VI-80, 29-IV-85, NVDA.

Chrysobothris nixa Horn. In Fisher's (1942) discussion of this species he stated "the sculpture and coloration on the dorsal surface of the body are rather constant —." Furthermore he states that the clypeus frequently has a narrow notch at the middle of the emargination, the pronotum occasionally has a vague, smooth callosity on each side of the middle at the apical third, and the abdominal sternites are usually without lateral callosities, but in a few they were slightly indicated. Ron Alten presented one of us (GHN) with a series he had reared from *Cupressus forbesii* Jeps. from California, Orange Co. This population presented a rather constant mosaic of characters as follows: clypeus with midline notch, pronotum moderately convex with distinct smooth callosity on each side of middle, elytra with distinct discal costae, and abdominal sterna with distinct lateral callosities. At first it was thought these were different enough to be considered a distinct subspecies, but after examining a long series

from various parts of its range, it was concluded that this southern population represented extremes of several characters. In contrast to Fisher's statement that this species is rather constant in sculpture, we find it to be one of the more broadly variable species in the genus.

Chrysobothris purpurifrons Motschulsky. One male reared from herbarium specimen of *Delphinium* sp., California, San Bernardino Co., Alta Loma, 10-IX-92, D. E. Bixler Coll.

Chrysobothris rugosiceps Melsheimer. KENTUCKY, Pulaski Co., Mt. Victory, 14-VIII-89, on *Quercus*, RAAC; OHIO, Allen Co., Cairo, 16-VI-87, dead *Quercus*, JAGC; Ashland Co., Mohican State Park, 27-VII-77, on *Castanea*, 7-VII-85, RAAC; Pike Co., Pike Lake State Park, 24-VI-89, RAAC; Scioto Co., Shawnee State Park, 15-VII-90, RAAC; Vinton Co., Lake Hope State Park, 17-V-81, on *Castanea*, 28-V-88, RAAC; Zaleski, 11-VII-94, JAGC.

Chrysobothris scabripennis Gory and Laporte. GEORGIA, Towns Co., 31-V-86, Roy Morris Coll.

Chrysobothris viridiceps Melsheimer. OHIO, Hocking Co., 3 mi N of Murray City, 8-VI-91, RAAC; Richland Co., Mifflin, 20-VI-84, RAAC.

Chrysobothris woodgatei Champlain and Knull. Westcott (1990) discussed the range of this species and provided northern extensions thereof. The following represent the southernmost records: Arizona, Cochise Co. Chiricahua Mts., Rustler park, Monte Vista Lookout, 9300', 1967, SWRS; Pima Co., Mt. Lemmon [Santa Catalina Mts.], 26-VI-82, RLWE.

Cypriacis intricata (Casey). Known previously from northern New Mexico, one female was collected in Grant Co., 16 mi N Silver City, 3-VI-90, GCWC.

Dicerca caudata LeConte. MONTANA, Gallatin Co., 12-V-82, RLWE; Bozeman, 17-VII-68, MTEC.

Dicerca hornii nelsoni Beer. California, Inyo Co., 2 mi S, 1 mi W Lone Pine, Alabama Hills sand dune, 4400', 17-V-80, ex. *Betula occidentalis* Hooker, CDAE. No clear host association has been recorded for this subspecies. We have observed emergence holes in birch at several nearby localities and Derham Giuliani (in litt.) says it is a host for this beetle. Starting in N. California, utilization of this niche is replaced by *D. hesperoborealis* Hatch and Beer. In semiarid parts of E Oregon and SE Washington, specimens matching well with *D. h. nelsoni* have been collected on *Salix* sp., and it has also been taken on *Salix exigua* Nutt. in California, San Bernardino Co., Victorville during June and July. Emergence holes indicate this is a host. Further study is needed to firmly establish their identity, or if indeed subspecies differentiation is warranted in this species. The only significant difference seems to be color and that could be an expression of localized climatic conditions, for example.

Dicerca lurida (Fabricius). Reared from *Prunus caroliniana* Aiton, Texas, Harris Co., by W Houston Airport, 26-I-91, em. 20/31-V-91, RLWE.

Dicerca pugionata (Germar). ARKANSAS, Polk Co., Quachita Natl. For., Bard Sprs., Caney Cr. Wildlife Area, 4-VI-78, TAMU.

Dicerca tenebrica (Kirby). OHIO, Lucas Co., 22-VII-92, JAGC.

Lampetis (Spinthoptera) drummondi (Laporte & Gory). This widespread species is subject to a great deal of variation, as pointed out by Nelson (1986). The largest female previously recorded is 35 mm long. A female was sent for identification from Texas A&M University that did not compare favorably with any others in their collection. Careful examination proved it to be an extra large *P. drummondi*. It is 38 mm long and the smooth raised areas of the pronotum, usually more diffuse over the general surface, are mainly concentrated in four large callosities with a midline carina anteriorly (Fig. 2). This

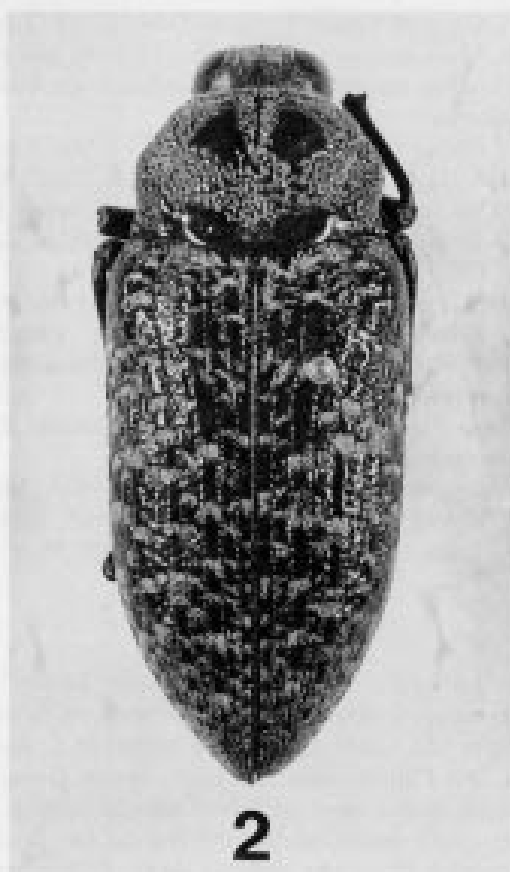


Fig. 2. *Lampiris (Spinthoptera) drummondii*, dorsal view.

specimen was found dead on the ground in Texas, Hudspeth Co., 4 mi W Sierra Blanca, 15-XI-90, TAMU.

Mastogenius crenulatus Knull. Reared from dead limb *Carya illinoensis* (Wang.) K. Koch., Louisiana, Baton Rouge Par., Baton Rouge, 11-IV-87, GHNC, TAMU; reared from *Diospyros texana* Scheele, Texas, Bexar Co., NW San Antonio, 23-11-92, em. III-92, RLWE.

Melanophila lecontei Obenberger 1928:210 (= *Melanophila arcuata* Fall 1932 (1931):83, **new synonymy**). An examination of the unique female holotype (sex not given in description) of *M. arcuata* reveals it falls within the variation of *M. lecontei*, thus is a junior synonym of the latter.

Apparently the only confirmed larval host record, *Abies concolor* (Gord. & Glend.) Lindl., for this species was provided by Nelson *et al.* (1981). An examination of specimens determined as *M. drummondii* (Kirby) in regional U.S. Forest Service collections housed at OSUO revealed specimens of *M. lecontei* from numerous localities associated with a variety of hosts, mostly *Abies* spp. The following rearing records were confirmed by correlating specimens bearing Hopkins numbers (provided herein): bark of *Abies lasiocarpa* (Hooker) Nutt., Washington, Tipsoo Lake [near Ohanapecosh, Lewis Co.], 23-VI-38, #31,768-b; from larvae "under bark and in outer bark" *Tsuga morten-*

siana (Bong.) Carr., Oregon, Crater Lake, 4-X-31, #20,537-b; from larvae and pupae in outer bark *Abies magnifica* A. Murr., 13-V-30 and 4-X-31, #s18,935-a, 20,536-b. Most rearing records in the collections are from *A. concolor* in these states and Arizona.

Micrasta oakleyi Fisher (or near). FLORIDA, Cudjoe Key, SE 1/4 Sec. 20, 4-V to 4-VIII-85; No Name Key, 23-II to 3-VI-86; Torch Key, SW 1/4 Sec. 12, 5-VI to 28-VIII-86, all in hammock forest, malaise-FIT; Sugarloaf Key, Sec. 23, 3-VI-86, hammock forest, shrub beating, NMCE, RLWE, TMSA. [FIRST RECORD FOR U.S.A.].

Polycesta deserticola Barr. When this species was described (Barr 1974), the largest female was recorded as 27.5 mm in length. A female from Arizona, Pima Co., flats below Madera Can., 11-XI-87, on *Prosopis*, GCWC, is 32.0 mm, a considerable increase in size.

Spectralia gracilipes (Melsheimer). KANSAS, Miami Co., T19S, R24E, Sec. 15, 1-VI-74, on trunk *Celtis*, OSUO.

Taphrocerus nicolayi Obenberger. OHIO, Ashland Co., Mohican State Park, 16-VI-81, 5-VI-83, RAAC; Guernsey Co., Salt Fork State Park, 28-V-78, RAAC; Vinton Co., Lake Hope State Park, 26-VI-88, 16-V-92, RAAC.

Schizopodidae

Schizopus laetus LeConte. Since revision of the family (Nelson and Bellamy 1991), more biological observations have been made on this species. On 4-V-91, G. C. Walters and GHN collected a series of *S. laetus* in California, Riverside Co., near Dos Palmas Sprs., on blossoms of *Geraea canescens* T. & G. Some were brought home alive and were placed in petri dishes with blossoms on which they were collected. Adults fed on the flowers. On 11-V-91, five eggs were removed from the dish as were 3 dead males and 4 dead females. On 13-V-91, seven more eggs had been laid; on 14-V-91, the last female died; and on 15-V-91, the last two males were dead. The eggs, 1.8 mm long, and 1.3 mm wide, are pale yellowish white, oval in shape with a smooth surface. No eggs hatched.

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