A journal of world insect systematics

INSECTA MUNDI

1075

Two new species of *Agrilus* Curtis from Arizona with some new distributional and host records of buprestids from the southwest USA (Coleoptera: Buprestidae)

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Date of issue: October 4, 2024

Center for Systematic Entomology, Inc., Gainesville, FL

Woodley NE. 2024. Two new species of *Agrilus* Curtis from Arizona with some new distributional and host records of buprestids from the southwest USA (Coleoptera: Buprestidae). Insecta Mundi 1075: 1–11.

Published on October 4, 2024 by
Center for Systematic Entomology, Inc.
P.O. Box 141874
Gainesville, FL 32614-1874 USA
http://centerforsystematicentomology.org/

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Electronic copies (online ISSN 1942-1354) in PDF format

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1075: 1–11 **INSECTA MUNDI** 2024

Two new species of *Agrilus* Curtis from Arizona with some new distributional and host records of buprestids from the southwest USA (Coleoptera: Buprestidae)

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Abstract. Two new species of *Agrilus* Curtis (Coleoptera: Buprestidae), *A. botzi* Woodley, **new species** and *A. vachellia* Woodley **new species**, both from southeastern Arizona, are described. *Agrilus barri* Hespenheide and Westcott and *Taphrocerus leoni* Dugès are recorded from Arizona and represent new U.S. records. Sixteen new state distributional records are presented, along with a few other significant records.

Key words. Taxonomy, *Sapindus*, *Vachellia*, distribution, jewel beetles.

ZooBank registration. urn:lsid:zoobank.org:pub:A187E9C8-5BB0-4F70-BA66-27233387504C

Introduction

Recent collecting in the southwest United States, primarily in Arizona, has resulted in discovery of two new species of *Agrilus* Curtis, as well as a number of range expansions of other species of Buprestidae. The purpose of this paper is to describe and illustrate the new species and present other new significant records.

The genus *Agrilus* is the largest genus in the Animalia, with over 3500 described species worldwide. In the Nearctic Region, the last comprehensive work with a key to species was a revision by Fisher (1928). Currently there are 185 species of *Agrilus* recorded from America north of Mexico, several of which have subspecies, resulting in a total of 194 species-group names. Seventy-one of these are not in Fisher's key, having been subsequently described or recorded from the region. This makes identification difficult if one does not have access to an authoritatively identified collection. This has likely resulted in some undescribed species not being recognized and mixed in with other species.

Another factor is seasonal collecting bias. In Arizona, most visitors plan collecting during the monsoon season, which is when there is the most diverse insect activity. However, there is a decided spring, pre-monsoon fauna. Some buprestids, as well as other beetles, that are rare in collections are actually common in the spring season. Both species of *Agrilus* described here are predominantly active in late spring, in May and June.

Materials and Methods

I collected most of the specimens discussed in this paper. Specimens are deposited in NEWC unless otherwise noted. A few other collections were consulted, with abbreviations used as follows:

ASUC Hasbrouck Insect Collection, Arizona State University, Tempe, Arizona, USA
CSCA California State Collection of Arthropods, Sacramento, California, USA
FSCA Florida State Collection of Arthropods, Gainesville, Florida, USA
FWSC Frederick W. Skillman, Jr. private collection, Phoenix, Arizona, USA
HAHC Henry A. Hespenheide personal collection, Hermosa Beach, California, USA
JPBC Joshua P. Basham private collection, Pharr, Texas, USA
NEWC Norman E. Woodley private collection, Hereford, Arizona, USA

UAIC University of Arizona Insect Collection, Tucson, Arizona, USA
USNM Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Specimens were examined using a Zeiss Stemi SV-11 stereomicroscope. Images were taken using a Macropod Pro photomacrography system (Macroscopic Solutions, LLC).

Label data for holotypes are cited verbatim with a single "/" separating lines and a double "//" separating labels.

Results

Agrilus botzi Woodley, new species

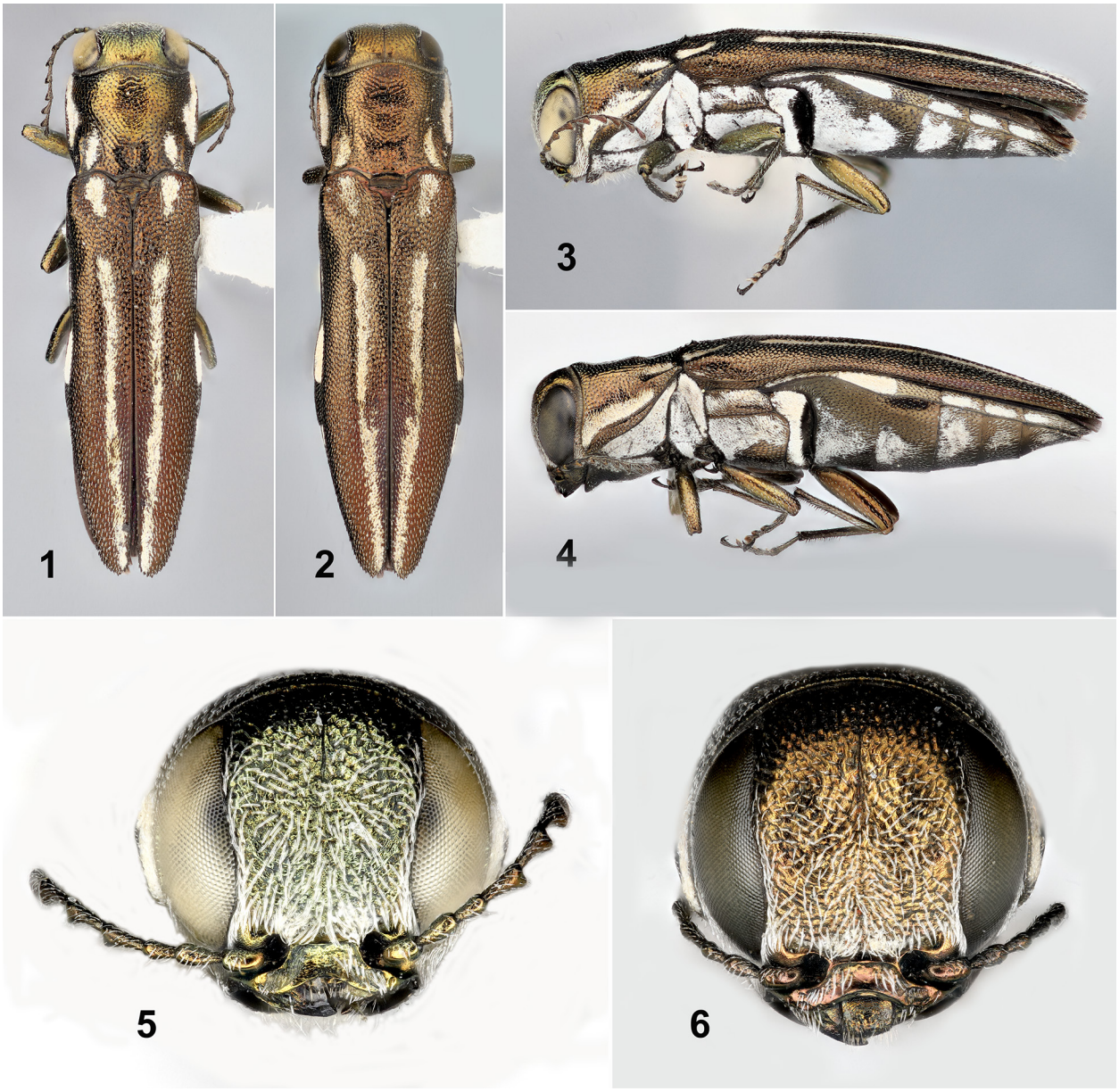
(Fig. 1–6, 13–14)

Type specimens. Holotype ♂: "ARIZONA: Cochise Co., west / slope of Dragoon Mountains, / Middlemarch Road 21.0 km NE / of Highway 80 1695m / 31°51.586′N, 109°57.498′W / 21 June 2021 N.E. Woodley // sweeping *Sapindus* / *saponaria* var. *drummondii* / (Hook. & Arn.) L.D. Benson / [Sapindaceae] // HOLOTYPE ♂ / *Agrilus* / *botzi* / Woodley 2024" (USNM).

Paratypes: 1♂, 1♀, same data as holotype (1♀, USNM); 3♂, 6♀, same data as holotype except 3 June 2020 (1♂, 1♀, FSCA); 2♀, same data as holotype except 30 May 2022 (1♀, HAHC); 1♀, same data as holotype except 11 June 2022; 1♂, same data as holotype except 26 May 2023; 1♀, same data as holotype except 16 June 2023; 1♀, same data as holotype except 18 June 2024; 3♀, Cochise Co., Middlemarch Road, Milepost 3, 4.8 km NE of Highway 80, 31°45.674′N, 110°03.019′W, 1370 meters, 29 June 2019, N.E. Woodley, sweeping *S. saponaria* var. *drummondii* (1♀, USNM); 1♂, same data except 1 July 2019; 1♂, same data except 30 May 2020 (HAHC); 1♂, same data except 1 June 2020; 1♀, same data except 30 May 2022; 3♂, same data except 10 June 2022 (1♂, USNM); 1♀, same data except 11 June 2022; 1♂, same data except 20 June 2023; 1♂, same data except 18 June 2024; 2♀, Cochise Co., Cochise Stronghold, 31.9457°N, 109.9592°W, 4780 feet, 28 August 2010, F.W. Skillman, Jr. (FWSC); 1♂, Cochise Co., Cochise Stronghold, 31°56.746′N, 109°57.555′W, 1456 meters, N.E. Woodley, at MV/UV (mercury-vapor/ultraviolet) light; 1♂, Cochise Co., North Tex Canyon Road, 11 km NW of Highway 80, 31°59.550′N, 109°18.633′W, 1565 meters, 17 June 2022, N.E. Woodley, sweeping *S. saponaria* var. *drummondii*; 1♂, same data except J.P. Basham (JPBC); 1♀, Santa Cruz Co., roadside stop on Highway 82, 5.8 km SW of Patagonia, 31°30.419′N, 110°48.210′W, 1190 meters, 3 July 2018, Jason T. Botz, sweeping *S. saponaria* var. *drummondii*, BugGuide voucher specimen, Image #1551068; 1♀, Santa Cruz Co., Highway 82, 4.8 km SW of Patagonia, 31°30.676′N, 110°47.918′W, 1195 meters, 1 July 2020, S.W. Lingafelter, sweeping *S. saponaria* var. *drummondii*. All paratypes have the label PARATYPE ♂ [or ♀] / *Agrilus* / *botzi* / Woodley 2024".

Diagnosis. In Fisher's (1928) key, *A. botzi* keys to couplet 73 and best fits *A. obsoletoguttatus* Gory. Two similar species described subsequent to Fisher, *A. limpiae* Knull, 1941 and *A. exsapindi* Vogt, 1949 also key here, and both have been reared from *Sapindus*. Neither species has a mostly complete elytral vitta, but rather a broken pattern of setal spots. None of these species similar to *A. botzi* are known from Arizona.

Description. Male (Fig. 1, 3, 5). Overall color coppery-bronze, head, pronotum and legs with a slight greenish tint; pronotum, elytra and venter with distinct setal pattern of white to pale yellowish enhanced by bright white flocculence. **Head** with frons (Fig. 5) convex, slightly depressed in upper third; surface moderately shiny and feebly rugose, longitudinally rugose on occiput, and clothed with moderately dense, slightly thickened, silvery-white setae; inner eye margins slightly sinuate; clypeus shallowly, arcuately emarginate, separated from frons by a fine transverse carina; antennae extending to posterior margin of pronotum or slightly farther when laid alongside, strongly serrate from antennomere 4. **Pronotum** with anterior margin slightly produced medially, widest anteriorly, margins subparallel then slightly tapering toward elytral bases; in lateral view marginal carina sinuate, submarginal carina weakly sinuate, the two widely separated anteriorly, converging posteriorly and fused for about posterior one-third; discal region with shallow anteromedial and posteromedial depressions, with more or less transverse rugae medially, these becoming subparallel to pronotal margin laterally; prehumeral carina sharply rounded, straight, extending from posterior angles about one-fourth distance to anterior margin; most of lateral



Figures 1–6. *Agrilus botzi* Woodley, new species, holotype male and paratype female. **1)** Holotype male, dorsal habitus. **2)** Female, dorsal habitus. **3)** Holotype male, lateral habitus. **4)** Female, lateral habitus. **5)** Holotype male, frontal view. **6)** Female, frontal view.

part of pronotum with slightly thickened setae, the patch narrowing posteriorly, and a small patch present medial to the prehumeral carina. Scutellum transversely carinate, with surface finely, transversely microrugose. **Elytra** (Fig. 1) slightly wider than posterior margin of pronotum; lateral margins nearly straight, slightly constricted at level of first abdominal sternite, exposing dense white setal patch on first laterotergite; with strong basal depression set with slightly thickened setae and white flocculence, similar setae forming longitudinal vittae in line with but separated from basal depressions, gradually converging toward suture at elytral apices; surface imbricately punctate, with short, fine, uniformly distributed setae. **Venter** with anterior margin of prosternum moderately emarginate medially; prosternal process broad, sides parallel to behind procoxal cavities, then broadly rounded at apex, clothed with semierect, dense, elongate setae that extend to intercoxal projection of first abdominal sternite;

lateral portions of thorax, most of metacoxa, large sublateral spots on abdominal sternites 1–2 and lateral spots on abdominal sternites 3–5 densely setose and covered with dense white flocculence obscuring surface (Fig. 3); laterotergites similarly setose with flocculence except second which has inconspicuous setae and is shiny; bare areas of abdominal sternites finely punctate and microrugose, uniformly set with short, inconspicuous setae; marginal groove present on abdominal sternite 5, weakly present on anterior part of sternite 4, submarginal apex of sternite 5 evenly rounded; pygidium with medial carina not projecting. **Legs** with metacoxal plate with posterior margin vaguely sinuate; femora without ventral denticles; tibiae slender, straight, pro- and mesotibiae with apical mucro-like spine on inner margin; posterior tarsi slightly shorter than tibiae, tarsomere 1 as long as 2–4 united; tarsal claws similar on all legs, with short basal tooth not turned inward. **Male genitalia** (Fig. 13, 14) tapered posteriorly; parameres very narrow in posterior half; aedeagus broad, tapering to a triangular apex that is very narrowly truncate to slightly rounded. Length 5.72–6.25 mm; width at humeri 1.33–1.48 mm.

Female (Fig. 2, 4, 6). Differs from male as follows: head, including frons (Fig. 6), and pronotum more uniformly colored with elytra and rest of body; antennae shorter, reaching only about two-thirds distance to posterior margin of pronotum when laid along-side; prosternum and ventral medial area of thorax without long, semierect setae; pro- and mesotibiae with apical mucro-like spine on inner margin present but smaller. Length 4.87–6.99 mm; width at humeri 1.15–1.76 mm.

Etymology. The specific epithet, *botzi*, is named for Jason T. Botz who collected the first specimen from *Sapindus* which led me to collect further from that host. He has given me a number of interesting buprestids from his collecting over the years.

Distribution. At present this species is known only from southeastern Arizona in Cochise and Santa Cruz counties.

Discussion. Other than a single specimen collected at MV/UV lights, all specimens have been swept from the foliage of *Sapindus saponaria* var. *drummondii* (Hook. & Arn.) L. D. Benson (Sapindaceae). This is almost certainly the larval host.

Agrilus vachellia Woodley, new species

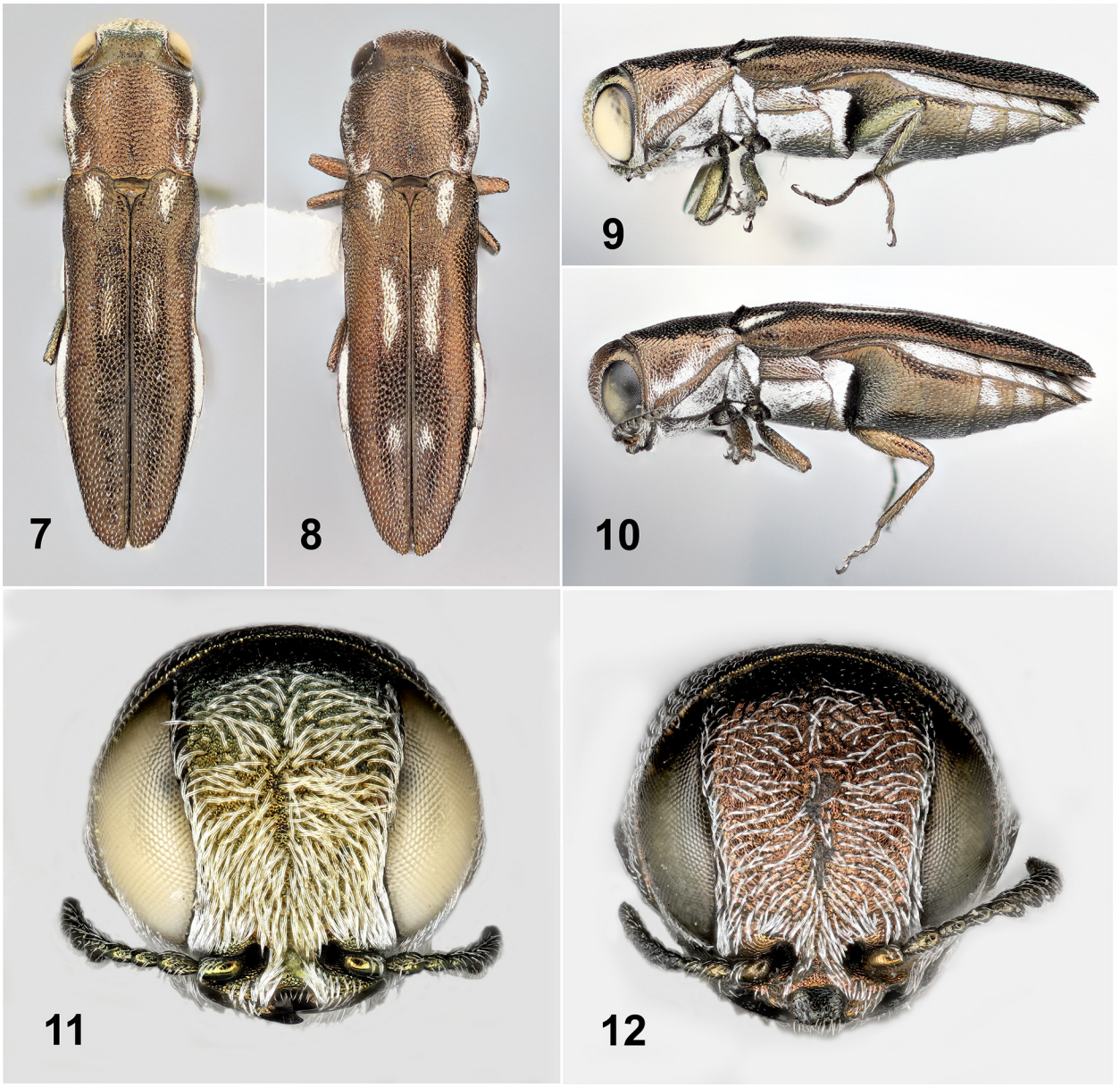
(Fig. 7–12, 15–16)

Type specimens. Holotype ♂: "ARIZONA: Cochise Co., west / slope of Dragoon Mountains, / Middlemarch Road, 20.5 km NE / of Highway 80 1695m / 31°51.483′N, 109°57.750′W /, 10 June 2022 N.E. Woodley // on *Vachellia constricta* / (Benth.) Seigler & / Ebinger [Fabaceae] // HOLOTYPE ♂ / *Agrilus* / *vachiella* / Woodley 2024" (USNM).

Paratypes: 3♂, 1♀, same data as holotype; 16♂, 10♀, same data as holotype except 11 June 2022 (2♂, 2♀, USNM; 2♂, 2♀, FSCA; 1♂, 1♀, HAHC; 1♂, 1♀ UAIC; 1♂, ASUC); 1♀, same data as holotype except 16 June 2023; 11♂, 13♀, same data as holotype except 20 June 2023 (2♂, 1♀, USNM; 1♂, 1♀, UAIC; 1♂, 2♀, ASUC); 3♂, same data as holotype except 18 June 2024; 4♂, 2♀, Cochise Co., Geronimo Trail, 11.3 km E of Douglas, 31°21.042′N, 109°23.920′W, 1320 meters, 15 June 2022, N.E. Woodley, on *V. constricta*. All paratypes have the label PARATYPE ♂ [or ♀] / *Agrilus* / *vachellia* / Woodley 2024".

Diagnosis. In Fisher's (1928) key this species keys to couplet 108 and best fits *A. prosopidis* Fisher but differs from that species by having much denser setae on the male frons, lateral spots of setae on the posterior abdominal sternites, and very different male genitalia. *Agrilus vachellia* is actually more similar to *A. barri* Hespenheide & Westcott, especially males that lack the posterior setal spot on the elytra, but again differs by having much denser setae on the male frons, lateral spots of setae on the posterior abdominal sternites, and very different male genitalia.

Description. Male (Fig. 7, 9, 11). Overall color coppery-bronze, head, pronotum and legs with a greenish tint; pronotum, elytra and venter with distinct setal pattern of white to pale yellowish enhanced by bright white flocculence. **Head** with frons (Fig. 11) convex, bright yellowish-green, contrasting with bronze vertex; surface not shiny, minutely granulate and punctate, longitudinally rugose on occiput, and clothed with dense, slightly thickened, silvery-white setae that strongly obscure cuticular surface, vertex without setae; inner eye margins slightly sinuate; clypeus shallowly, arcuately emarginate, separated from frons by a weak transverse carina; antennae

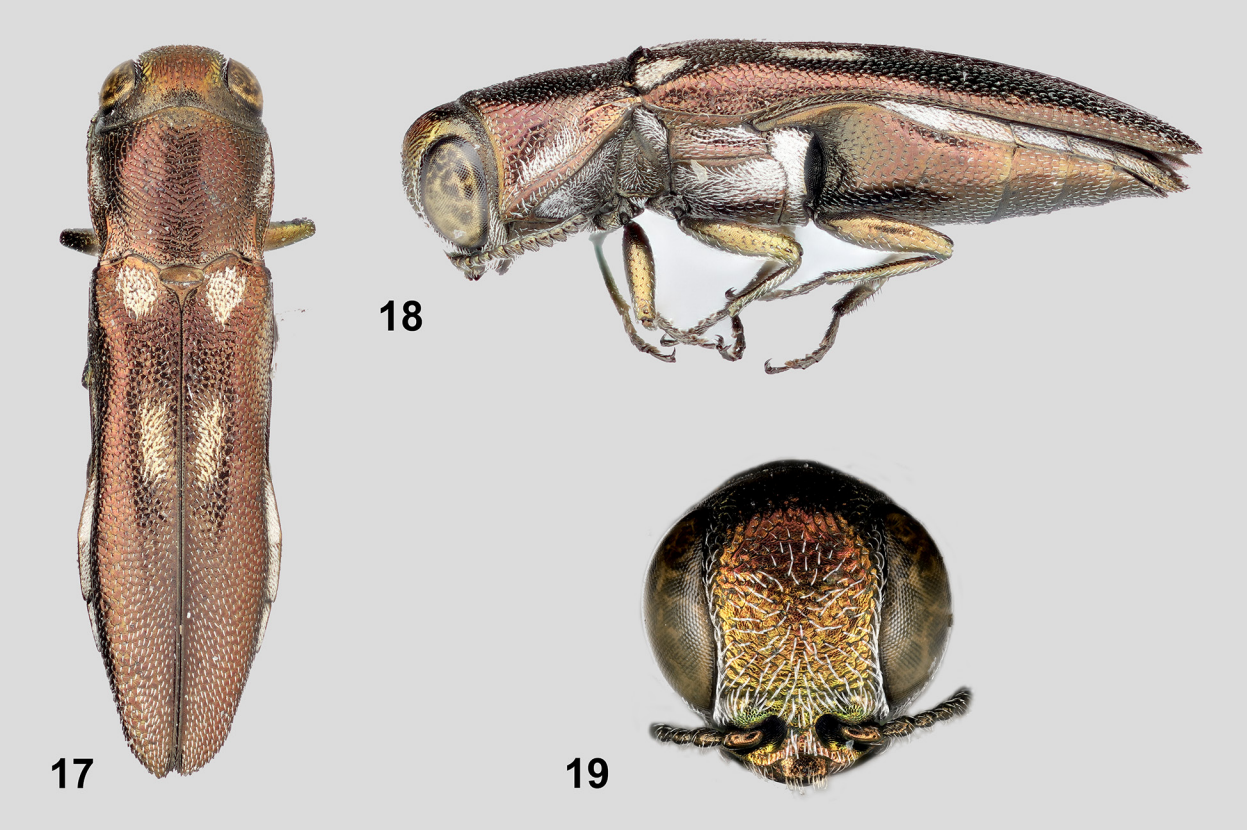


Figures 7–12. *Agrilus vachellia* Woodley, new species, holotype male and paratype female. **7)** Holotype male, dorsal habitus. **8)** Female, dorsal habitus. **9)** Holotype male, lateral habitus. **10)** Female, lateral habitus. **11)** Holotype male, frontal view. **12)** Female, frontal view.

extending to about middle of pronotum when laid along-side, strongly serrate from antennomere 5. **Pronotum** with anterior margin slightly produced medially, widest anteriorly, margins subparallel then slightly tapering toward elytral bases; in lateral view marginal carina sinuate, submarginal carina nearly straight, the two widely separated anteriorly, converging posteriorly and very slightly separate at posterior pronotal angle; discal region with narrow, very shallow medial depression, with transverse rugae medially that are very narrowly broken by medial depression, these becoming subparallel to pronotal margin laterally; prehumeral carina sharply rounded, straight, extending from posterior angles about one-fourth to one-third distance to anterior margin; most of lateral margin of pronotum lateral to prehumeral carina with slightly thickened setae, the remainder of pronotum with very short, fine appressed setae uniformly distributed. Scutellum transversely carinate, with surface finely,

Figures 13–16. *Agrilus* new species, male genitalia of holotypes. **13)** *A. botzi*, dorsal view. **14)** *A. botzi*, ventral view. **15)** *A. vachellia*, dorsal view. **16)** *A. vachellia*, ventral view.

transversely microrugose. **Elytra** (Fig. 7) slightly wider than posterior margin of pronotum; lateral margins nearly straight, slightly constricted at level of first abdominal sternite, exposing dense white setal patch on first laterotergite, those on second and third laterotergites narrowly visible; basal depression set with slightly elongate patch of thickened setae and white flocculence, similar setae forming narrow longitudinal vitta in line with but separated from basal depression, extending from about level of metacoxa to middle of elytron, and a similar small, rounded spot at about level of third ventrite (this can occasionally be poorly developed or absent); surface imbricately punctate, with short, fine, uniformly distributed setae. **Venter** with anterior margin of prosternum rounded-truncate medially, not emarginate; prosternal process broad, sides parallel, then slightly widened posterior to procoxal cavities, truncate at apex, clothed with semierect, dense, elongate setae that extend to posterior margin of first abdominal sternite; lateral portions of thorax, most of metacoxa and small lateral spots on abdominal sternites 3–5 (can be vague or absent on 5) densely setose and covered with dense white flocculence obscuring surface (Fig. 9); anterior margin of abdominal sternite 2 with medial spot of short, dense yellowish setae that is narrowly divided; laterotergites setose with white setae and flocculence; bare areas of abdominal sternites finely punctate and microrugose, uniformly set with short, inconspicuous setae, some longer setae at apex of sternite 5; marginal groove present on abdominal 5, submarginal apex of sternite 5 medially truncate; pygidium with medial carina not projecting. **Legs** with metacoxal plate with posterior margin shallowly emarginate with weakly developed medial lobe; femora without ventral denticles; tibiae slender, straight, pro- and mesotibiae with apical mucro-like spine on inner margin; posterior tarsi slightly shorter than tibiae, tarsomere 1 as long as 2–4 united; tarsal claws on front legs with inner tooth narrow, nearly as long as claw, middle and hind tarsi with short basal tooth not turned inward. **Male** genitalia (Fig. 15, 16) strongly arcuate in lateral view, gradually widened posteriorly, then slightly narrowed for short distance; parameres narrowly rounded at apices; aedeagus about twice width of one



Figures 17–19. *Agrilus barri* Hespenheide and Westcott, female specimen from Arizona. **17)** Dorsal habitus. **18)** Lateral habitus. **19)** Frontal view.

paramere, margins subparallel, apically triangularly rounded with blunt apex. Length 3.88–4.36 mm; width at humeri 0.99–1.13 mm.

Female (Fig. 8, 10, 12). Differs from male as follows: head with frons golden-bronze, becoming more coppery dorsally, less densely setose than in male; elytra with markings more boldly developed, posterior setose spot always present; prosternum and ventral medial area of thorax without long, semierect setae; legs more reddish-coppery, not greenish; pro- and mesotibiae with apical mucro-like spine on inner margin apparently absent. Length 3.56–4.66mm; width at humeri 0.86–1.16 mm.

Etymology. The species epithet, *vachellia*, is a noun in apposition based on the generic name of the adult host plant.

Distribution. At present, *A. vachellia* is only known from Cochise County in southeastern Arizona.

Discussion. This species was found to be common at the type locality on *Vachellia constricta* (Benth.) Seigler & Ebinger (Fabaceae; whitethorn acacia), its adult and presumed larval host. The adults feed on the pollen or petals of the bright yellow flowers, as when the male genitalia were dissected, the contents of the posterior gut was bright yellow.

New United States Records

The following two species are recorded from the U.S. for the first time.

***Agrilus barri* Hespenheide and Westcott** (Fig. 17–19). 1♀, **Arizona:** Santa Cruz Co., Nogales, 31.336°N, 110.938°W, 1190 meters, 11 June 2017, Jason T. Botz, MV/UV lights.

This species was described by Hespenheide and Westcott in Hespenheide et al. (2011) based on material from Mexico, primarily Baja California Sur. Additional specimens included in their paper, but not designated as paratypes, were from Sinaloa and Sonora. The authors noted that females usually had a dark greenish to bluish head and pronotum (Hespenheide et al. 2011: fig. 6), there was variation in coloration, and some females were monochromatic, similar to males. I examined numerous paratypes and other specimens cited by Hespenheide et al. (2011) in the FSCA collection and could find no morphological differences between those and the Arizona specimen. The most northern locality for *A. barri* cited by Hespenheide et al. (2011), 6.5 miles S of Santa Ana, Sonora, Mexico, is only about 100 km south of Nogales, Arizona.

I identified as *A. barri* an additional series of 8♂, 6♀ from **Mexico: Chihuahua**, vicinity of Laguna de Encinillas, 1–2 July 1987, C.L. Bellamy (CSCA). The male genitalia are identical to those in the paratype series, and although most females are monochromatic, one has a dull greenish pronotum. This represents a **new state record** for Mexico.

***Taphrocerus leoni* Dugès** (Fig. 20–24). **Arizona:** Cochise Co., Huachuca Mountains, upper Miller Canyon Road, 31°25.01′N, 110°16.48′W, 1730 meters, 11 May 2017, N.E. Woodley, sweeping sedges; Cochise Co., Huachuca Mountains, lower Ida Canyon 31°22.77′N, 110°19.82′W, 1815 meters, 24 July 2016, N.E. Woodley, sweeping sedges; Cochise Co., Huachuca Mountains, U.S. Forest Service Road 4759, Scotia Canyon, 31°27.031′N, 110°24.027′W, 1830 meters, 24 April 2020, N.E. Woodley, sweeping sedges; Cochise Co., Hereford, 8920 South Bryerly Court, 31°24.232′N, 110°13.864′W, 1500 meters, 1–5 August 2017, S.W. Lingafelter, Malaise trap; Cochise Co., Chiricahua Mountains, East Rucker Canyon Road at road to Red Rock Canyon, 31°45.919′N, 109°19.700′W, 1785 meters, 17 June 2022, N.E. Woodley, sweeping sedges.

This species was well characterized by Marek (2021) but was not recorded north of Mexico. It is quite common in the Huachuca and Chiricahua Mountains in southeastern Arizona, especially in the spring before monsoon rains. It co-occurs with *T. chevrolati* Obenberger and *T. sulcifrons* Fisher. All three species can be collected from the same patch of sedges at the same time.

New State Records

The following represent new U.S. state records, with the newly recorded state given in bold.

***Acmaeodera cazieri* Knull. New Mexico:** Hidalgo Co., Peloncillo Mountains, Geronimo Trail 0.2 km NE of Arizona border, 31°30.068′N, 109°02.911′W, 1620 meters, 14 August 2020, N.E. Woodley.

***Acmaeodera solitaria* Kerremans. New Mexico:** Hidalgo Co., Peloncillo Mountains, Geronimo Trail 2.4 km NE of Arizona border, 31°30.617′N, 109°02.250′W, 1790 meters, 3 August 2022, N.E. Woodley. As far as I am aware, this common summer/early fall-occurring species has been recorded only from southeastern Arizona and western mainland Mexico. However, clearly in error, Chamberlin (1926; as its synonym, *A. daggetti* Fall) listed it from "Southern California." He did not provide any further information. Unfortunately, Nelson et al. (2008) followed him; however, Bellamy (2008) did not. Surely there is no suitable habitat for this species anywhere near California.

***Acmaeoderoides stramineus* Nelson. Arizona:** Yuma Co., East County 19th Street, 0.9 km W of Highway 195, 32°33.192′N, 114°34.307′W, 65 meters, 27 June 2024, N.E. Woodley, sweeping *Tiquilia plicata* (Torr.) A. Richards (Boraginaceae).

***Acmaeoderopsis prosopis* Davidson. Arizona:** Maricopa Co., Tonopah, West Salome Highway at Baseline Road, 33°22.680′N, 112°46.271′W, 280 meters, 1 May 2021, N.E. Woodley, sweeping *Prosopis* sp. (Fabaceae).

***Acmaeoderopsis westcotti* (Barr). Arizona:** Yuma Co., Yuma, West Wetlands Park, 32°43.797′N, 114°38.004′W, 30 meters, 25 June 2024, S.W. Lingafelter, night beating *Prosopis velutina* Wooton (Fabaceae).

***Acmaeoderopsis rockefelleri* (Cazier). Arizona:** Cochise Co., Foothills Road, 3 miles N of Portal, 31°57′N, 109°08-09′W, 1390 meters, 28 May 1981, H.A. Hespenheide; same data but 17 May 1985; Cochise Co., 2 miles ESE of Portal, 31°54′N, 109°06′W, 1370 meters, 28 May 1985, H.A. Hespenheide.

Figures 20–24. *Taphrocerus leoni* Dugès. **20)** Male, dorsal habitus. **21)** Male, frontal view. **22)** Female, frontal view. **23)** Male genitalia, dorsal view. **24)** Male genitalia, ventral view.

***Agrilus blandus* Horn. Arizona:** Mohave Co., unnamed road SW of Nothing, 37.1 km SE of Wikieup off Highway 93, 34°28.600′N, 113°20.630′W, 970 meters, 20 May 2021, N.E. Woodley, sweeping *Senegalia greggii* (A. Gray) Britton & Rose (Fabaceae).

***Agrilus cavatus* Chevrolat. New Mexico:** Hidalgo Co., Peloncillo Mountains, Geronimo Trail 0.2 km NE of Arizona border, 31°30.068′N, 109°02.911′W, 1620 meters, 14 August 2020, N.E. Woodley, sweeping *Acaciella angustissima* (Mill.) Britton & Rose (Fabaceae).

***Agrilus cochisei* Knull. New Mexico:** Hidalgo Co., 30 miles S of Animas, 27 August 1980, N.E. Woodley; Luna Co., Highway 9, 14.6 km E of Columbus, 31°48.734′N, 107°29.383′W, 1215 meters, 14 September 2016, Salvador Vitanza.

***Agrilus crataegi* Frost. Arizona:** Coconino Co., Lake Mary Road at Mormon Lake Overlook, 34°57.775′N, 111°26.297′W, 2225 meters, 2 June 2021, N.E. Woodley.

***Anambodera palmarum* (Timberlake). Arizona:** Maricopa Co., Highway 88 at Needle Vista View Point, 33°29.738′N, 111°27.829′W, 650 meters, 2 May 2021, N.E. Woodley, on flowers of *Eriogonum inflatum* Torr. (Polygonaceae); Maricopa Co., Highway 88 at Bulldog Canyon Trail, 33°30.080′N, 111°27.807′W, 640 meters, 21 May 2023, N.E. Woodley, on flowers of *E. inflatum*; Mohave Co., Rawhide Wash, on Road 15, 6.0 km NW of Alamo Lake, 34°17.717′N, 113°48.450′W, 480 meters, 7 May 2024, N.E. Woodley, on flowering *E. inflatum*.

***Chrysobothris atriplexae* Fisher. Arizona:** Maricopa Co., Tonopah, West Salome Highway at Baseline Road, 33°22.680′N, 112°46.271′W, 280 meters, 1 May 2021, N.E. Woodley, sweeping *Atriplex canescens* (Pursh) Nutt. (Amaranthaceae).

***Chrysobothris axillaris* Horn. New Mexico:** Cibola Co., Cibola National Forest, Mt. Taylor Road 547, 35°13.91′N, 107°42.88′W, 2130–2470 meters, 9–14 August 2007, E.H. Nearns.

***Chrysobothris bispinosa* Schaeffer. New Mexico:** Hidalgo Co., Peloncillo Mountains, Geronimo Trail 2.4 km NE of Arizona border, 31°30.617′N, 109°02.250′W, 1790 meters, 20 June 2024, N.E. Woodley, sweeping *Quercus* sp. (Fagaceae).

***Chrysobothris chalcophoroides* Horn. New Mexico:** Hidalgo Co., Animas Mountains, Gray Ranch, Indian Creek Canyon, 31°36′15″N, 108°46′26″W, 4829 feet, 25 August 2004, M. Gates.

***Chrysobothris costifrons costifrons* Waterhouse. New Mexico:** Grant Co., Gila National Forest, Gomez Peak Picnic Area, 32°50′55″N, 108°16′32″W, 1957 meters, 15 August 2007, N.E. Woodley, on cut *Quercus* (Fagaceae).

Other Significant Records

The following represent records of some rarely collected species and new adult host records indicated in bold.

***Acmaeodera horni* Fall.** Arizona: Cochise Co., west slope of Dragoon Mountains, Middlemarch Road, 20.5 km NE of Highway 80, 31°51.568′N, 109°57.534′W, 1710 meters, 30 May 2020, N.E. Woodley, on flowers of *Fallugia paradoxa* (D. Dond.) Endl. (Rosaceae). Other specimens from same locality, 1 June 2020, 12 May 2021, 14 May 2021, 4 May 2022, 10 May 2022, 16 May 2022, 24 May 2022, 30 May 2022. **New adult host record**.

This species was known only from the holotype until an additional specimen was discovered in UAIC from the Santa Catalina Mountains in Arizona, which led Westcott and Bellamy (2004) to collect eight additional specimens. The specimens they collected were on or near two species of *Quercus*. All the specimens I have collected were on flowers of *Fallugia paradoxa*. I observed some individuals feeding on the petals of the flowers of this plant.

***Agrilus falli* Fisher.** Arizona: Santa Cruz Co., Patagonia Mountains, Duquesne Road 18.0 km N of Highway 82, 31°23.267′N, 110°43.067′W, 1770 meters, 28 August 2022, N.E. Woodley, sweeping *Dalea albiflora* A. Gray (Fabaceae). **New adult host record**.

***Mastogenius puncticollis* Schaeffer.** Arizona: Cochise Co., Chiricahua Mountains, Forest Road 42 at crossing of East Turkey Creek, 31°54.550′N, 109°15.115′W, 1960 meters, 10 June 2020, N.E. Woodley; Cochise Co., Chiricahua Mountains, John Hands Campground, 31°52.706′N, 109°13.379′W, 1715 meters, 12 June 2024, N.E. Woodley, beating dead twigs of *Quercus* sp. (Fagaceae); Cochise Co., Huachuca Mountains, Carr Canyon Road just below Carr House, 31°26.574′N, 110°17.190′W, 1660 meters, 2 June 2022, N.E. Woodley, sweeping *Quercus hypoleucoides* A. Camus (Fagaceae); Cochise Co., Huachuca Mountains, Miller Canyon Trail just SW of Beatty's Guest Ranch, 31°24.801′N, 110°16.739′W, 1790 meters, 6 June 2022, N.E. Woodley, sweeping *Q. hypoleucoides*; Cochise Co., Huachuca Mountains, Carr Canyon Road 9.5 km from Highway 92, 31°25.797′N, 110°16.984′W, 2160 meters, 14 June 2022, N.E. Woodley, sweeping *Q. hypoleucoides*; Cochise Co., Huachuca Mountains, upper Carr Canyon Road, Reef Townsite Campground, 31°25.689′N, 110°17.441′W, 2195 meters, 7 July 2022, N.E. Woodley, sweeping *Q. hypoleucoides*.

In addition to the holotype, there have been only two additional specimens of *M. puncticollis* recorded (Walters and Bellamy 1990, Bellamy 2002). I have collected 26 specimens from the above localities, mostly by sweeping *Quercus hypoleucoides,* **new adult host record**. The species seems to be mostly associated with dead twigs of that oak species. However, the series noted above from John Hands Campground was collected on *Quercus* that was not *Q. hypoleucoides*, so additional oak species probably serve as larval hosts

Acknowledgments

I am very grateful to Henry Hespenheide (Hermosa Beach, California) for discussions on *Agrilus* species and for his opinion on the new species described here. Thanks are due to Kyle Schnepp (FSCA) for facilitating a loan of Mexican *Agrilus* species for comparisons. My appreciation goes to Richard Westcott (Oregon Department of Agriculture, Salem, Oregon) for discussions concerning some of the records presented here. I thank Alexander Konstantinov (Systematic Entomology Laboratory, USDA, Washington, DC) for taking the photographic images. I thank Steven Lingafelter for taking measurements of the new species, and for providing a review of the manuscript. Ted C. MacRae also provided a helpful review of the manuscript.

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Received July 24, 2024; accepted August 12, 2024.
Review editor Angélico Asenjo.