Map Supplements (Figures 1-107) for

The Metallic Woodboring Beetles (Coleoptera: Buprestidae) of Tennessee

(Adapted from Supplemental Tables provided within the following)

Klingeman, WE, JA Hansen, JP Basham, JB Oliver, NN Youssef, W Swink, CA Nalepa, DC Fare, JK Moulton--Seasonal flight activity and distribution of metallic woodboring beetles (Coleoptera: Buprestidae) collected in North Carolina and Tennessee. Florida Entomologist 98(2) (June 2015) at http://purl.fcla.edu/fcla/entomologist/browse.

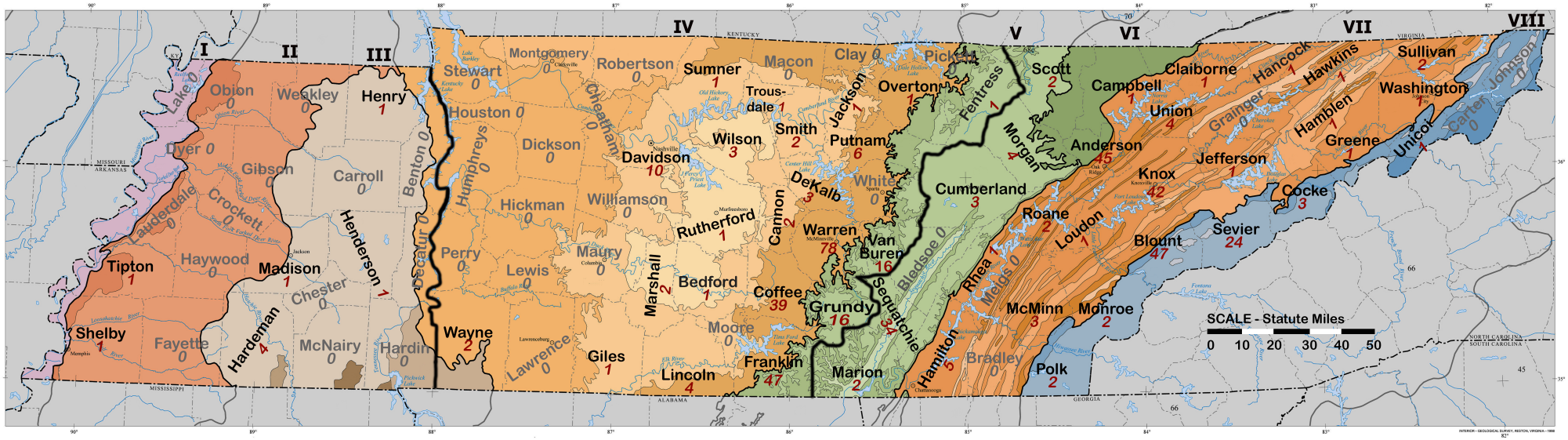
William E Klingeman[1]*, Jason A Hansen[2], Joshua P Basham[3], Jason B Oliver[3], Nadeer N Youssef[3], Whitney Swink[4], Christine A Nalepa[4], Donna C Fare[5] and J Kevin Moulton[2]

[1] *University of Tennessee, Department of Plant Sciences, Knoxville, Tennessee 37996, USA*
[2] *University of Tennessee, Department of Entomology and Plant Pathology, Knoxville, Tennessee 37996, USA*
[3] *Tennessee State University, College of Agriculture, Human, and Natural Sciences, Otis L. Floyd Nursery Research Center, McMinnville, Tennessee 37110, USA*
[4] Beneficial Insects Laboratory, *North Carolina Department of Agriculture and Consumer Services, Raleigh, North Carolina 27699-1060, USA*
[5] *US National Arboretum, USDA-ARS, Otis L. Floyd Nursery Research Center, McMinnville, Tennessee 37110, USA*
*Corresponding author: wklingem@utk.edu.

Abstract

Following compilation of distribution records and seasonal flight activity information for 106 metallic wood-boring beetle (Coleoptera: Buprestidae) species for Tennessee, maps were updated to provide county-level collection notations for 10,543 published records and specimen collections made from 1934 to 2013. County collection tallies across the ecoregions in Tennessee are also presented. Maps for individual species highlight gaps in key geographic areas where specimens have not been collected and can be valuable for future biosurveillance, monitoring and management efforts for these economically and ecologically important insects.

Key Words: biosurveillance, intrastate distribution, jewel beetles, landscape pest arthropods, non-native insects, nursery pest arthropods, pest monitoring



Suppl. Fig. 1. Metallic woodboring beetle species (Coleoptera: Buprestidae) tallied within each of the 95 Tennessee counties from collection records compiled for 107 different species. Collection distribution is presented across ecoregions occurring within the western, middle, and eastern Grand Divisions of Tennessee (bold black lines). Across the Grand Divisions, county names presented in pale gray text are those from which no metallic woodboring beetle species were collected or reported. Roman numerals (west to east) designate the Ecoregions of Tennessee, where I corresponds with the Mississippi Alluvial Plain (ecoregion 73), II are the Mississippi Valley Loess Plains (ecoregion 74), III are the Southeastern Plains (ecoregion 65), IV is the Interior Plateau (ecoregion 71), V are the Southwestern Appalachians (ecoregion 68), VI are the Central Appalachians (ecoregion 69), VII are Ridges and Valleys (ecoregion 67), and VIII are the Blue Ridge Mountains (ecoregion 66) (after Griffith et al. 1997). Full descriptions of the Tennessee Ecoregions are available at: https://www.epa.gov/eco-research/ecoregion-download-files-state-region-3.

The Buprestidae of Tennessee

Closed circles represent previously published county records, museum specimen records, and specimens examined. Taxonomy follows Nelson et al. 2008. Maps adapted from Supplemental Materials presented with Klingeman et al. 2015, Florida Entomologist 98(2): 579-587.
(Last edited: June 2015)

Polycestinae: Acmaeoderini

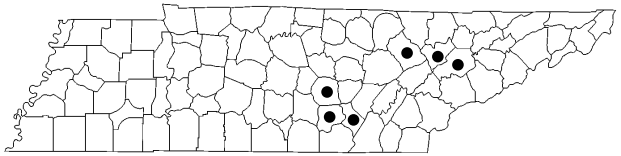


Fig. 2. *Acmaeodera ornata* (Fabricius)

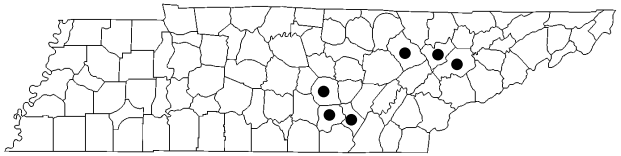


Fig. 3. *Acmaeodera pulchella* (Herbst)

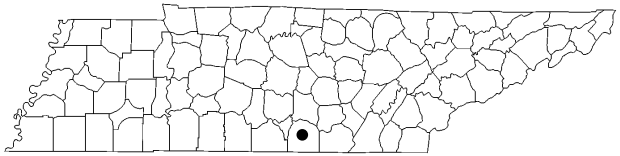


Fig. 4. *Acmaeodera texana* LeConte

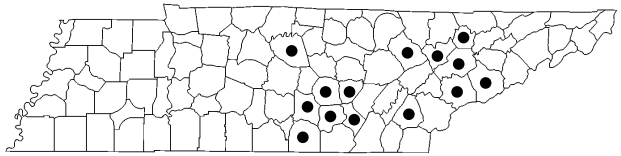


Fig. 5. *Acmaeodera tubulus* (Fabricius)

Polycestinae: Haplostethini

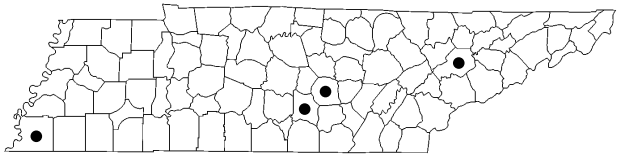


Fig. 6. *Mastogenius crenulatus* Knull

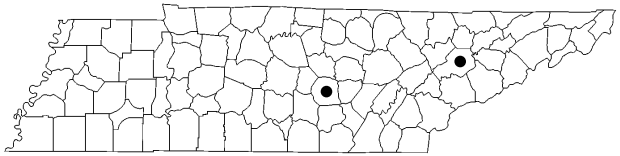


Fig. 7. *Mastogenius subcyaneus* (LeConte)

Polycestinae: Ptosimini

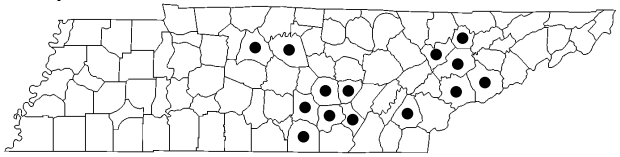


Fig. 8. *Ptosima gibbicollis* (Say)

Chrysochroinae: Chalcophorini

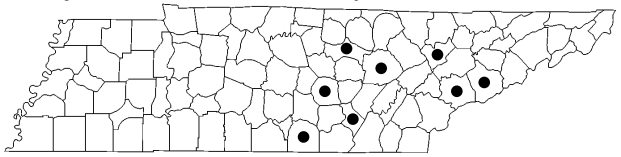


Fig. 9. *Chalcophora virginiensis* (Drury)

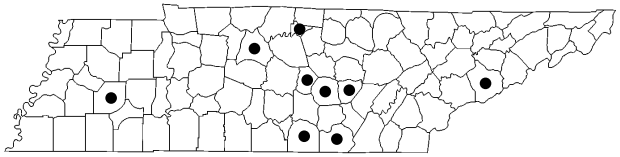


Fig. 10. *Texania campestris* (Say)

Chrysochroinae: Dicercini

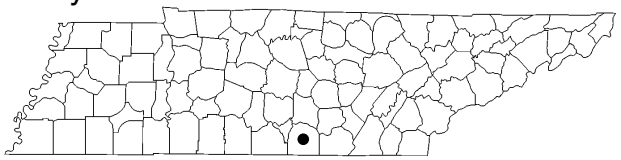


Fig. 11. *Dicerca (Dicerca) asperata* (Laporte & Gory)

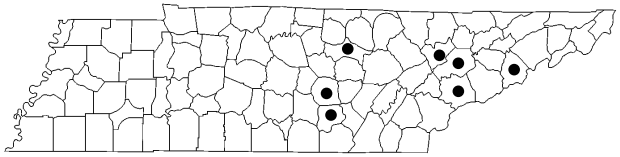


Fig. 12. *Dicerca (Dicerca) divaricata* (Say)

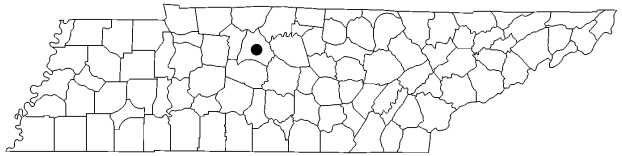


Fig. 13. *Dicerca (Dicerca) lepida* LeConte

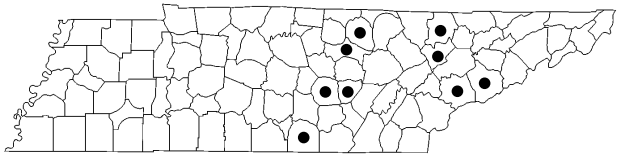


Fig. 14. *Dicerca (Dicerca) lurida* (Fabricius)

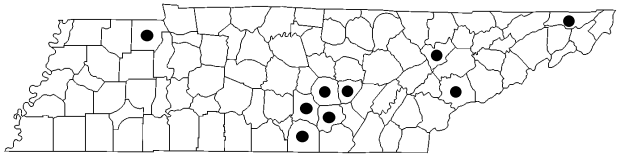


Fig. 15. *Dicerca (Dicerca) obscura* (Fabricius)

Suppl. Figs. 2-15. Tennessee county collection localities for metallic woodboring beetle (Buprestidae) species: Polycestinae: Acmaeoderini, Haplostethini, Ptosimini, Chrysochroinae: Chalcophorini, Dicercini (*in part*).

Chrysochroinae: Dicercini (*continued*)

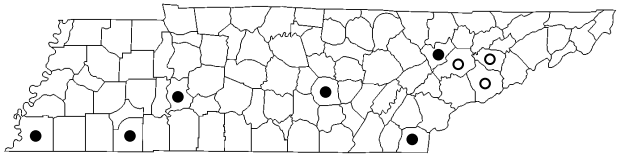


Fig. 16. *Dicerca (Neoargante) tenebrosa knulli* Nelson

Chrysochroinae: Poecilonotini

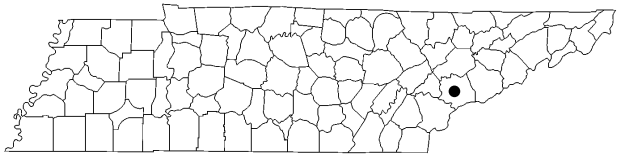


Fig. 17. *Poecilonota cyanipes* (Say)

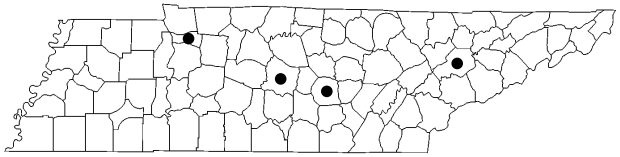


Fig. 18. *Poecilonota thureura* (Say)

Buprestinae: Actenodini

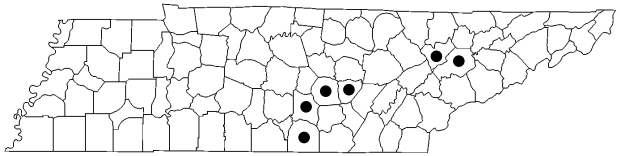


Fig. 19. *Actenodes acornis* (Say)

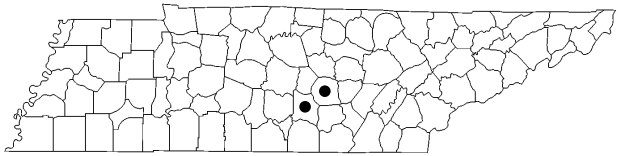


Fig. 20. *Actenodes simi* (Fisher)

Buprestinae: Anthaxiini

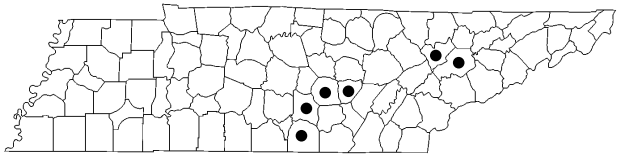


Fig. 21. *Anthaxia (Haplanthaxia) cyanella* Gory

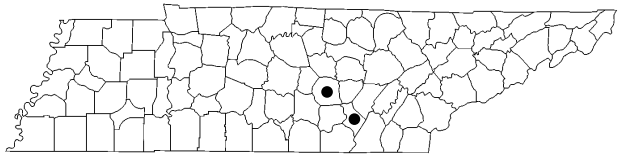


Fig. 22. *Anthaxia (Haplanthaxia) dichroa* Bilý

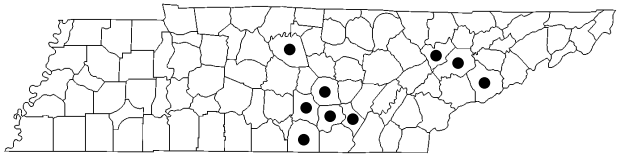


Fig. 23. *Anthaxia (Haplanthaxia) quercata* (Fabricius)

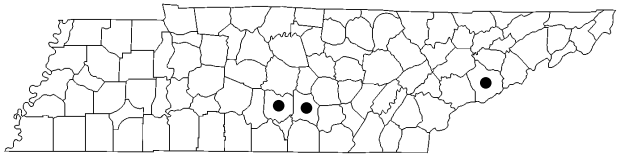


Fig. 24. *Anthaxia (Haplanthaxia) quercicola* Wellso

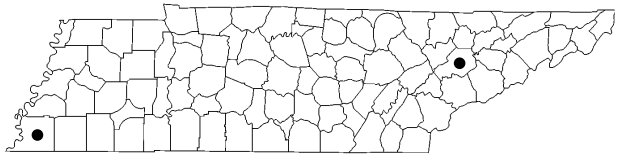


Fig. 25. *Anthaxia (Haplanthaxia) viridicornis* (Say)

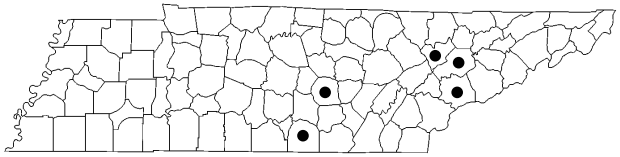


Fig. 26. *Anthaxia (Haplanthaxia) viridifrons* Gory

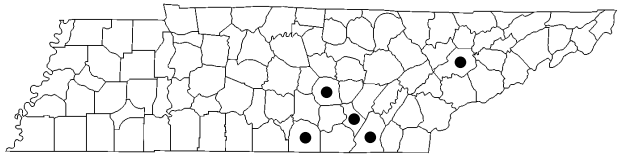


Fig. 27. *Agrilaxia flavimana* (Gory)

Buprestinae: Buprestini

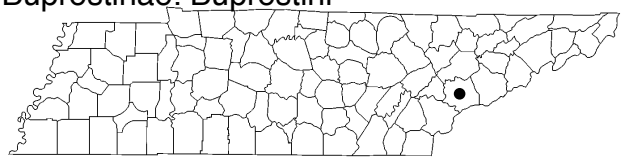


Fig. 28. *Buprestis (Buprestis) consularis* (Gory)

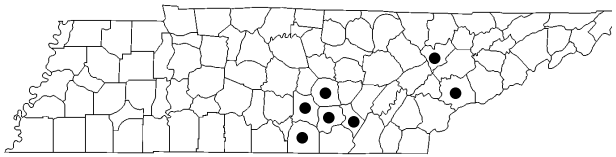


Fig. 29. *Buprestis (Buprestis) lineata* Fabricius

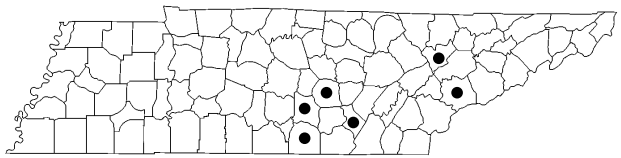


Fig. 30. *Buprestis (Buprestis) maculipennis* Gory

Suppl. Figs. 16-30. Tennessee county collection localities for metallic woodboring beetle species: Chrysochroinae: Dicercini (continued), Poecilonotini, Actenodini; Buprestinae: Buprestini (*in part*).

Buprestinae: Buprestini (*continued*)

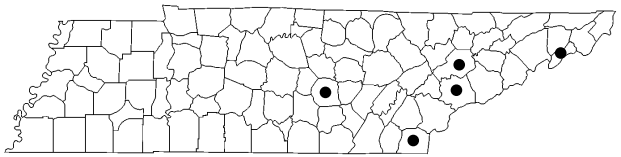


Fig. 31. *Buprestis (Cypriacis) striata* Fabricius

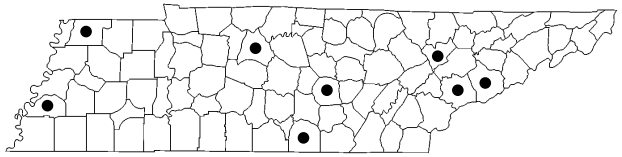


Fig. 32. *Buprestis (Knulliobuprestis) rufipes* Olivier

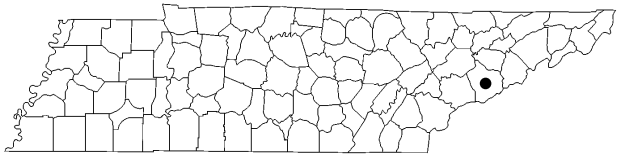


Fig. 33. *Buprestis (Nelsonocheira) fasciata* Fabricius

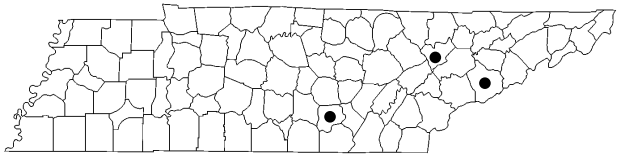


Fig. 34. *Buprestis (Stereosa) salisburyensis* Herbst

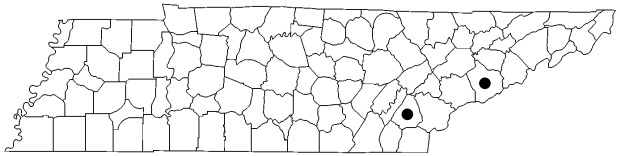


Fig. 35. *Buprestis (Stereosa) decora* Kirby

Buprestinae: Chrysobothrini

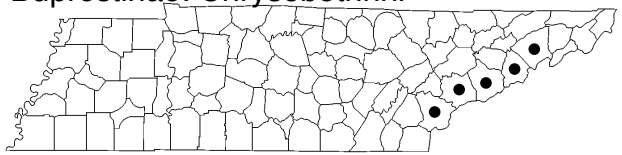


Fig. 36. *Chrysobothris adelphа* Harold

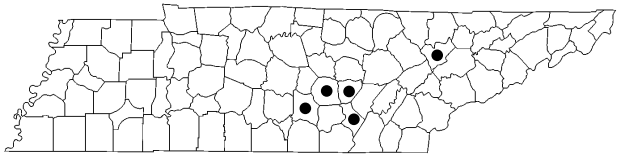


Fig. 37. *Chrysobothris azurea* LeConte

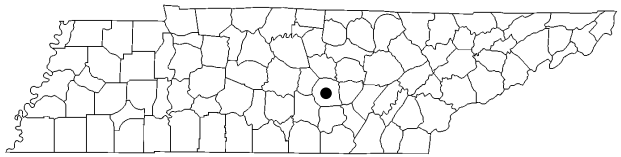


Fig. 38. *Chrysobothris caddo* Wellso & Manley

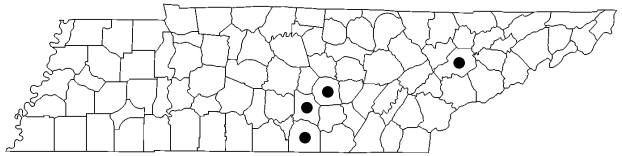


Fig. 39. *Chrysobothris chlorocephala* Gory

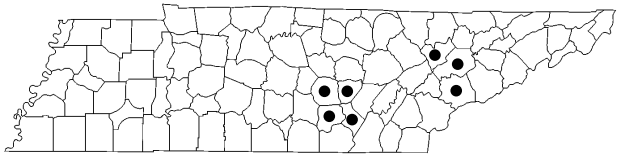


Fig. 40. *Chrysobothris cribraria* Mannerheim

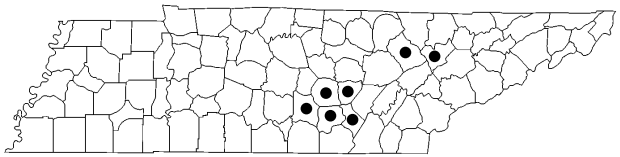


Fig. 41. *Chrysobothris dentipes* (Germar)

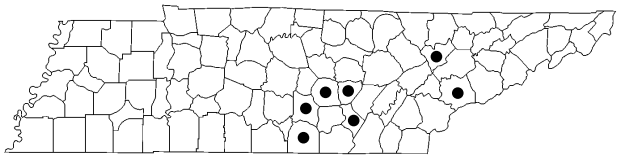


Fig. 42. *Chrysobothris femorata* (Olivier)[C]

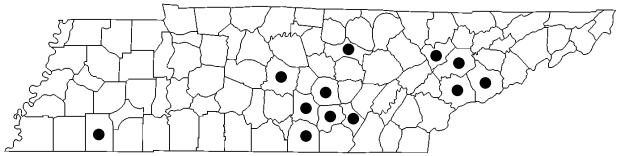


Fig. 43. *C. quadriimpressa* Gory & Laporte[C]

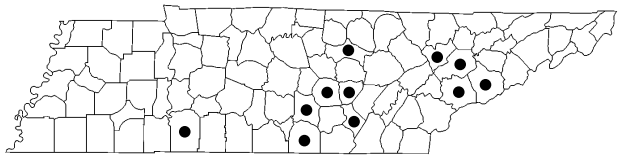


Fig. 44. *C. rugosiceps* Melsheimer[C]

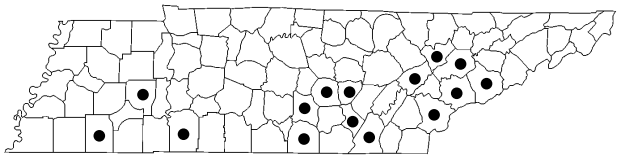


Fig. 45. *C. shawnee* Wellso & Manley[C]

Suppl. Figs. 31-45. Tennessee county collection localities for metallic woodboring beetle species: Buprestinae: Burprestini (*continued*), Chrysobothrini (*in part*). [C] Chrysobothris femorata, C. rugosiceps, C. shawnee, and C. viridiceps, which were identified via anatomical features, could not be discriminated genetically as species (Hansen et al. 2015), yet are retained to illustrate the geographic overlap observed among complex members.

Buprestinae: Chrysobothrini (*continued*)

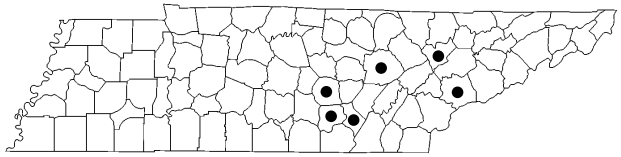


Fig. 46. *Chrysobothris harrisi* (Hentz)

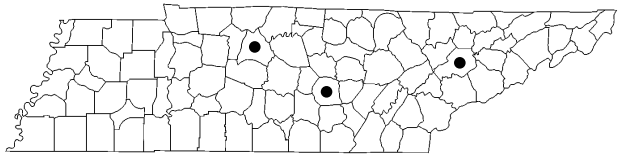


Fig. 47. *Chrysobothris neotexana* (B.K. Dozier)

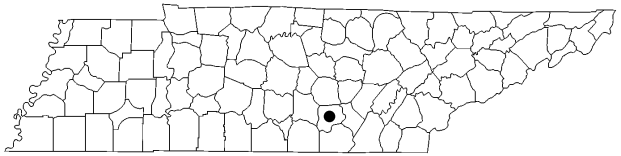


Fig. 48. *Chrysobothris orono* Frost

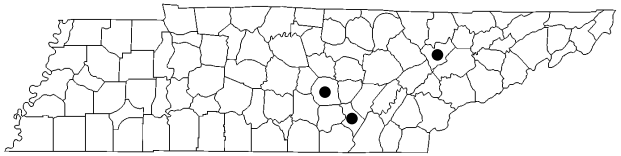


Fig. 49. *Chrysobothris pusilla* Gory & Laporte

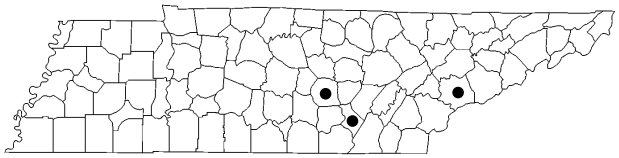


Fig. 50. *Chrysobothris rotundicollis* Gory & Laporte

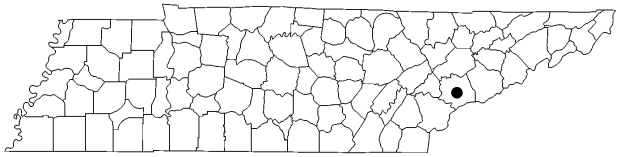


Fig. 51. *Chrysobothris scabripennis* Casey

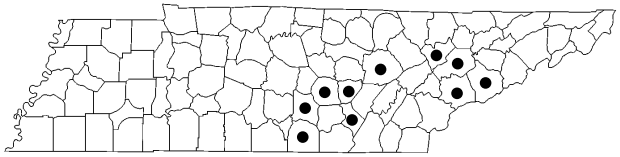


Fig. 52. *Chrysobothris sexsignata* Say

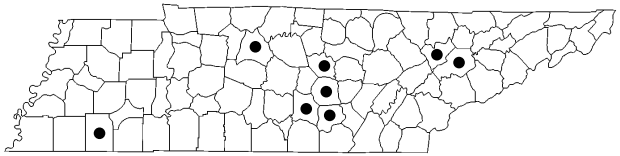


Fig. 53. *Chrysobothris viridiceps* Melsheimer

Buprestinae: Phryxiini

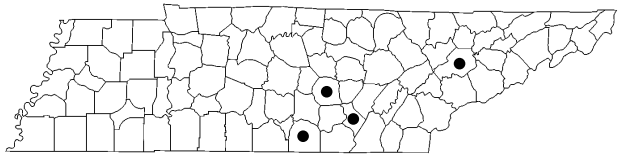


Fig. 54. *Spectralia gracilipes* (Melsheimer)

Buprestinae: Xenorhipidini

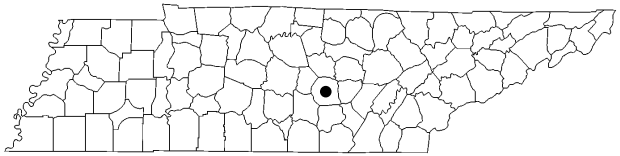


Fig. 55. *Xenorhipis brendeli* LeConte

Buprestinae: Melanophilini

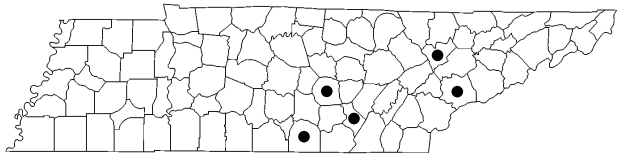


Fig. 56. *Phaenops aeneola* (Melsheimer)

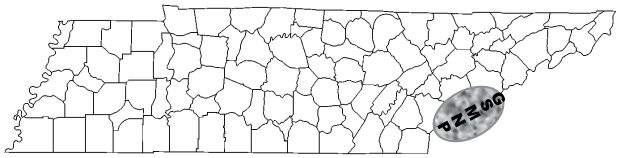


Fig. 57. *Phaenops drummondi* (Kirby)

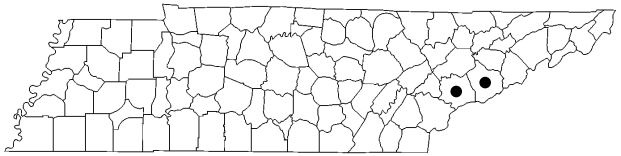


Fig. 58. *Phaenops fulvoguttata* (Harris)

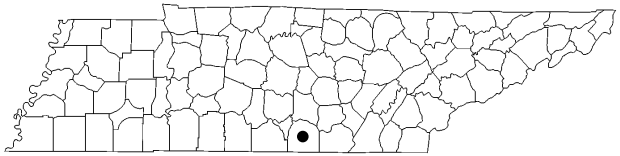


Fig. 59. *Phaenops obtusa* (Horn)

Suppl. Figs. 46-59. Tennessee county collection localities for metallic woodboring beetle species: Buprestinae: Chrysobothrini (*continued*), Xenorhipini, Melanophilini.

Agriliinae: Agrilini

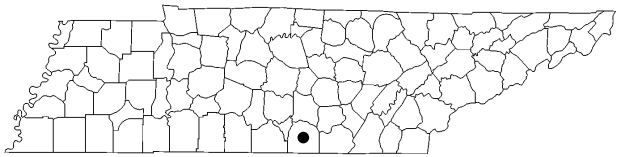


Fig. 60. *Agrilus abductus* Horn

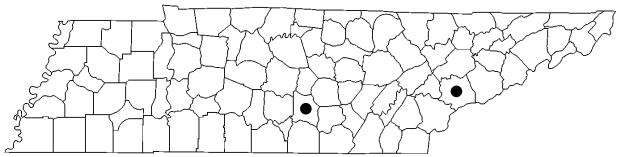


Fig. 61. *Agrilus acutipennis* Melsheimer

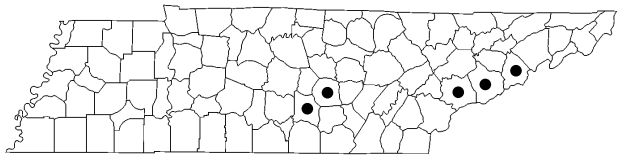


Fig. 62. *Agrilus arctuatus* Say

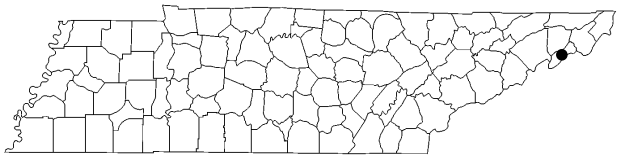


Fig. 63. *Agrilus audax* Say

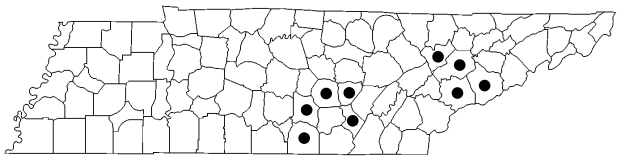


Fig. 64. *Agrilus bilineatus* (Weber)

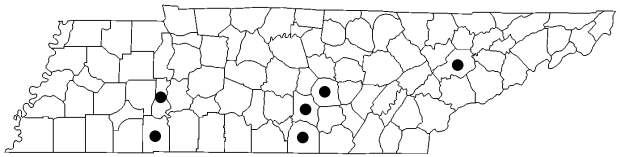


Fig. 65. *Agrilus celti* Knull

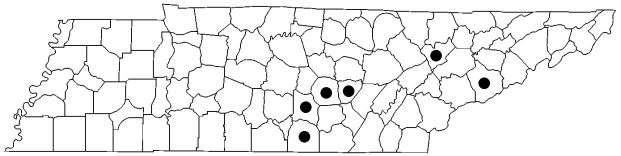


Fig. 66. *Agrilus cephalicus* LeConte

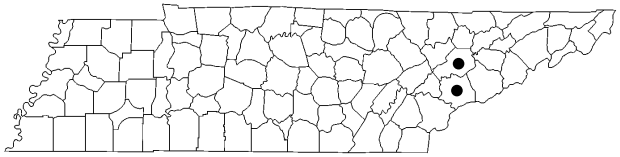


Fig. 67. *Agrilus cliftoni* Knull

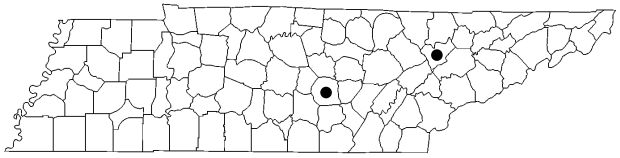


Fig. 68. *Agrilus defectus* LeConte

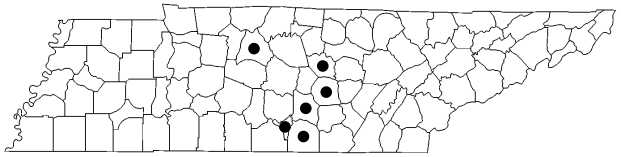


Fig. 69. *Agrilus difficilis* Gory

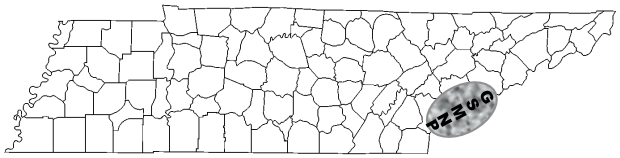


Fig. 70. *Agrilus diospyrioides* Knull

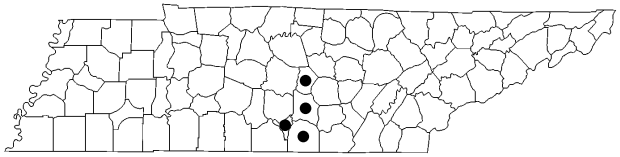


Fig. 71. *Agrilus egeniformis* Champlain & Gory

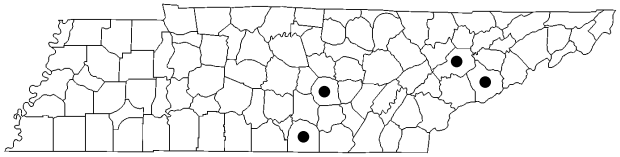


Fig. 72. *Agrilus egenus* Gory

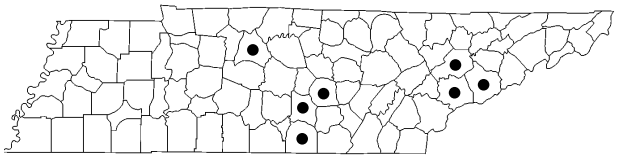


Fig. 73. *Agrilus fallax* Say

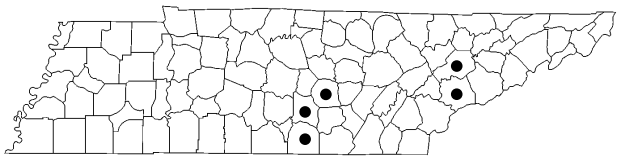


Fig. 74. *Agrilus ferrisi* Drury

Suppl. Figs. 60-74. Tennessee county collection localities for metallic woodboring beetle species: Agrilinae: Agrilini (*in part*).

Agrilinae: Agrilini (*continued*)

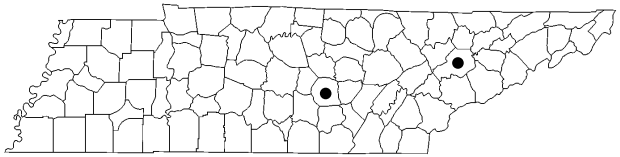


Fig. 75. *Agrilus fuscipennis* Gory

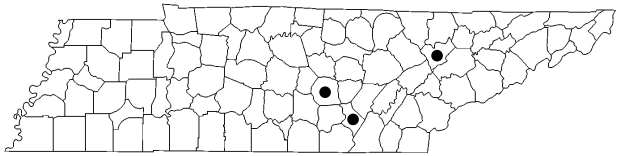


Fig. 76. *Agrilus geminatus* (Say)

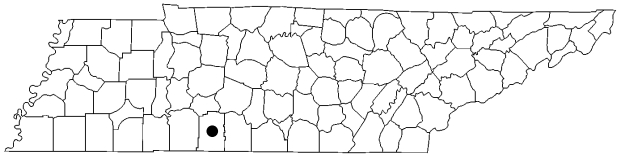


Fig. 77. *Agrilus lecontei celticola* Fisher

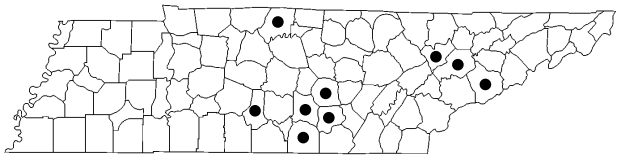


Fig. 78. *Agrilus lecontei lecontei* Saunders

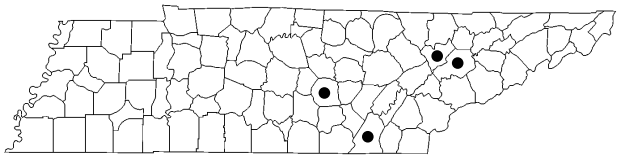


Fig. 79. *Agrilus masculinus* Horn

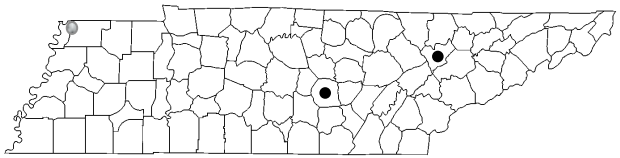


Fig. 80. *Agrilus oblongus* Fisher

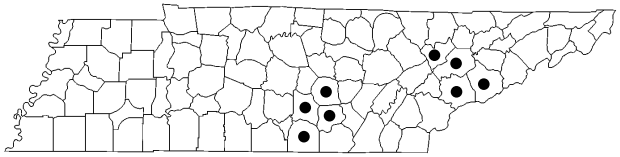


Fig. 81. *Agrilus obsoletoguttatus* Gory

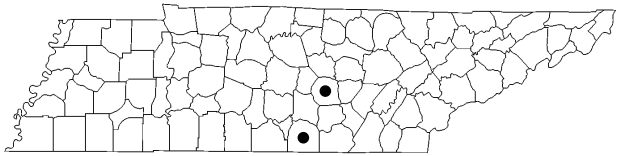


Fig. 82. *Agrilus olentangyi* Champlain & Knull

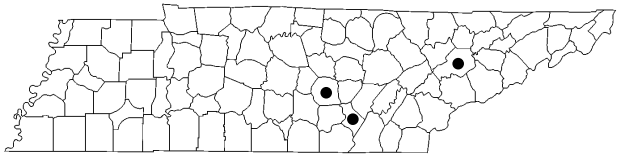


Fig. 83. *Agrilus otiosus* Say

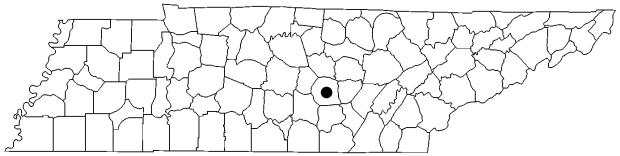


Fig. 84. *Agrilus paracelti* Knull

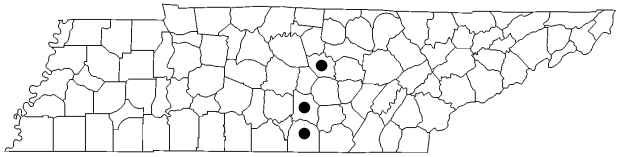


Fig. 85. *Agrilus parvus parvus* Saunders

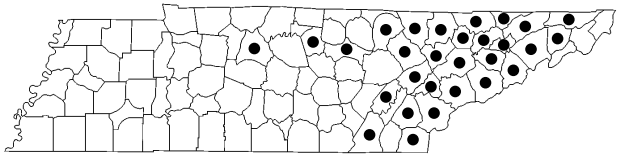


Fig. 86. *Agrilus planipennis* Fairmaire

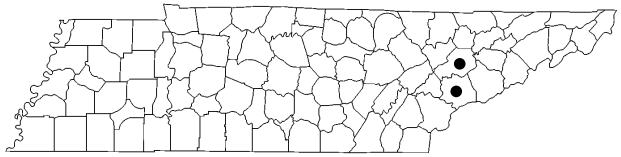


Fig. 87. *Agrilus politus* Say

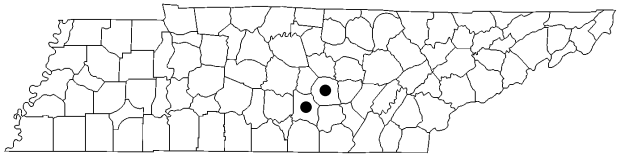


Fig. 88. *Agrilus pseudofallax* Frost

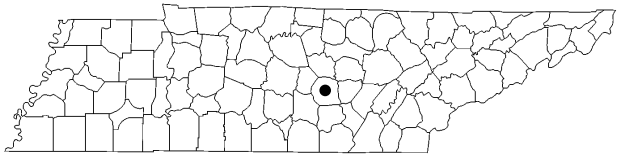


Fig. 89. *Agrilus pulchellus* Bland

Suppl. Figs. 75-89. Tennessee county collection localities for metallic woodboring beetle species: Agrilinae: Agrilini (*continued* & *in part*).

Agrilinae: Agrilini (*continued*)

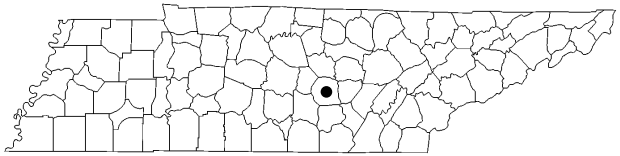


Fig. 90. *Agrilus putillus putillus* Say

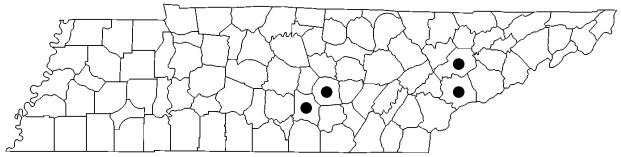


Fig. 91. *Agrilus quadriguttatus* Gory

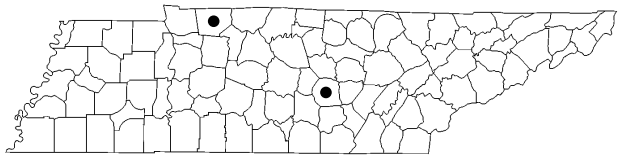


Fig. 92. *Agrilus quadriimpressus* Ziegler

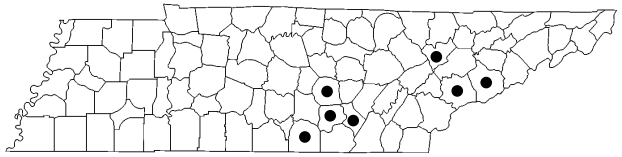


Fig. 93. *Agrilus ruficollis* (Fabricius)

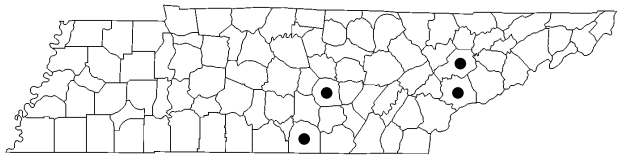


Fig. 94. *Agrilus subcinctus* Gory

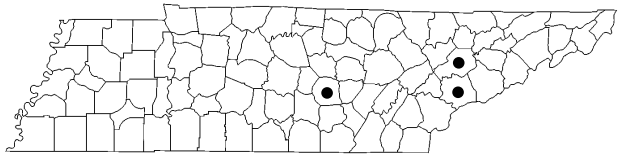


Fig. 95. *Agrilus subrobustus* Saunders

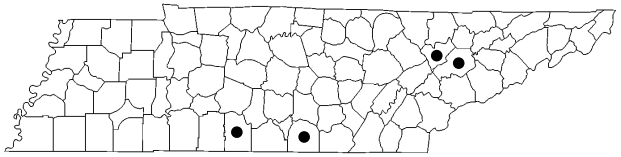


Fig. 96. *Agrilus transimpressus* Fall

Agrilinae: Coraebini

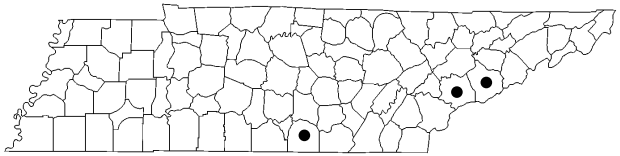


Fig. 97. *Eupristocerus cogitans* (Weber)

Agrilinae: Trachyini

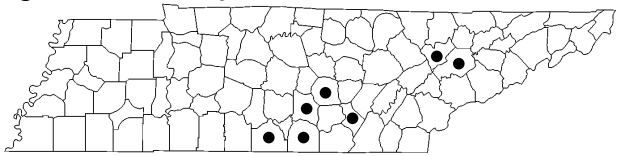


Fig. 98. *Brachys aerosus* Gory

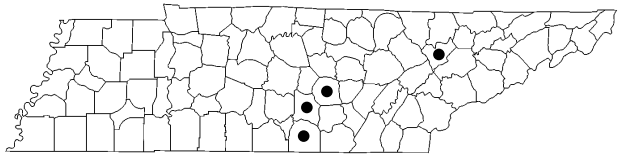


Fig. 99. *Brachys aeruginosus* Gory

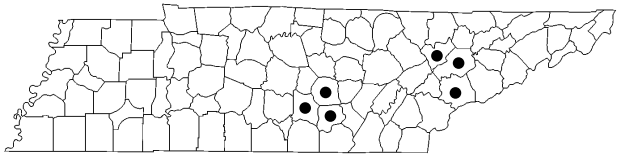


Fig. 100. *Brachys ovatus* (Weber)

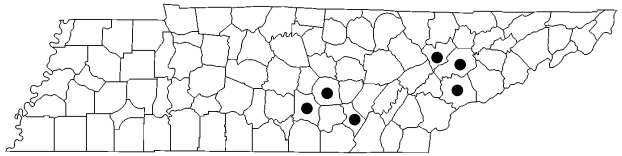


Fig. 101. *Pachyschelus laevigatus* (Say)

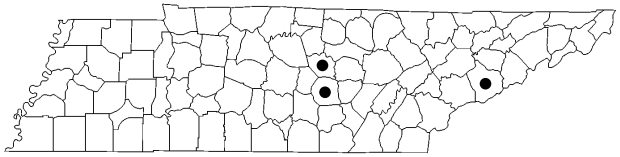


Fig. 102. *Pachyschelus nicolayi* Obenberger

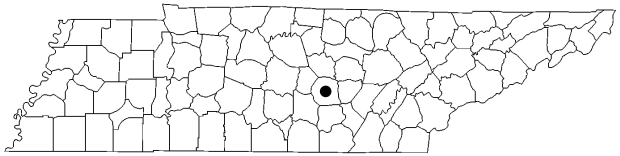


Fig. 103. *Pachyschelus purpureus purpureus* (Say)

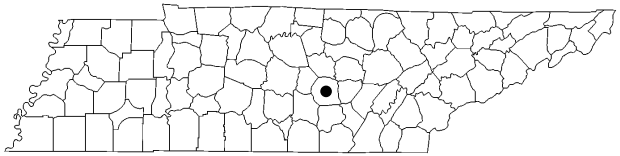


Fig. 104. *Taphrocerus cylindricollis* Kerremans

Suppl. Figs. 90-104. Tennessee county collection localities for metallic woodboring beetle species: Agrilinae: Agrilini (*in part*), Coraebini, Trachyini (*in part*).

Agrilinae: Trachyini (*continued*)

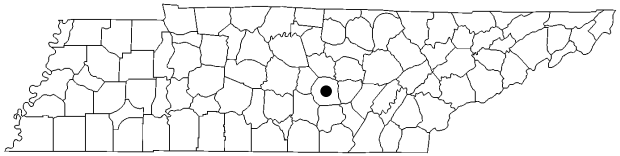


Fig. 105. *Taphrocerus gracilis* Obenberger

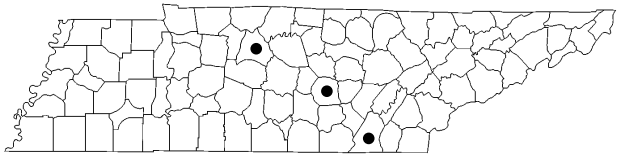


Fig. 106. *Taphrocerus howardi* Obenberger

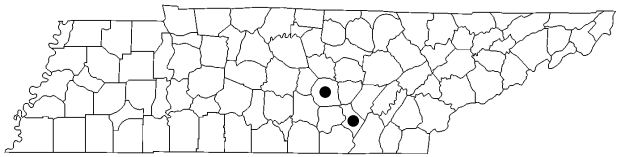


Fig. 107. *Taphrocerus nicolayi* Obenberger

Suppl. Figs. 105-107. Tennessee county collection localities for metallic woodboring beetle species: Agrilinae: Trachyini (*continued*).