

**Annotated List of the Leaf Beetles (Coleoptera: Chrysomelidae) of  
Kentucky: Subfamily Chrysomelinae**

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**ABSTRACT**

An examination of leaf beetle specimens (Coleoptera: Chrysomelidae) in the five largest beetle collections in Kentucky, recent inventory work in state nature preserves, and a review of the literature revealed twenty-two species of the subfamily Chrysomelinae present in Kentucky, eight of which were previously unreported for the state. Distribution maps and label data are presented for the twenty-two Kentucky species of the subfamily Chrysomelinae including spatial (state and Kentucky county records), temporal (years and months of collection in Kentucky), and plant association information. The following species are reported from Kentucky for the first time: *Chrysolina cribaria* (Rogers), *Chrysolina quadrigemina* (Suffrian), *Calligrapha californica coreopsivora* Brown, *Calligrapha multipunctata* (Say), *Calligrapha pnirsa* Stål, *Calligrapha spiraeae* (Say), *Gastrophysa cyanea* F. E. Melsheimer, and *Phratora americana americana* (Schaeffer).

**KEY WORDS:** Kentucky, leaf beetles, Chrysomelidae, biodiversity, new state records

**INTRODUCTION**

This paper is the third in a series intended to present a synopsis of the historical collection data on leaf beetles (Coleoptera: Chrysomelidae) from the major Coleoptera collections in Kentucky and augment these data with new information gained from recent monitoring in state preserves and other locations. The first two papers presented information on the subfamilies Cassidinae (Barney et al. 2007)

and Donaciinae and Criocerinae (Barney et al. 2008), and this paper will address the Chrysomelinae.

The subfamily Chrysomelinae is a group of leaf beetles with 135 species in 16 genera in America north of Mexico (Daccordi 1994; Riley et al. 2002). Several species in this subfamily are of economic importance, especially the Colorado potato beetle, *Leptinotarsa decemlineata* (Say), and two species of *Chrysolina* were introduced into North America as biological control agents for Klamath weed (*Hypericum perforatum* L.): *C. hyperici hyperici* (Forster) and *C. quadrigemina* (Suffrian) (Wilcox 1972).

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The purpose of this study is to present the historical and current knowledge of the distribution, abundance, and plant associations of chrysomeline leaf beetles in Kentucky.

### MATERIALS AND METHODS

To establish a historical perspective, leaf beetle specimens from the major insect collections in Kentucky (and from collections located in other states, but known to contain Kentucky specimens) were examined, re-identified, and their label data recorded. The following collections were studied: the Brigham Young University Collection (BYUC, Provo, UT); the Charles Dury Collection at the Cincinnati Museum of Natural History (CMNH, Cincinnati, OH); the private collection of Charles Wright, the Kentucky Beetles Project Collection (CWIC, Frankfort, KY), which was established in 1991 in an effort to document Coleoptera within the state; the Kentucky State University Insect Collection (KYSU, Frankfort, KY), which houses the specimens generated by the Kentucky Leaf Beetle Biodiversity Project; the private collection of Robert J. Barney (RJBC, Frankfort, KY), which comprises two time periods of collecting in Kentucky, 1976–1984 and 2004–2007; the University of Kentucky Insect Collection (UKIC, Lexington, KY), which contains the Charles V. Covell, Jr. Collection (emeritus professor of the University of Louisville); and the Western Kentucky University Collection (WKUC, Bowling Green, KY).

We currently are conducting extensive collecting in many grass-dominated barrens and rock outcrop (glade) communities that are known for possessing uncommon plants and plant associations (Jones 2005). These sites are primarily in state nature preserves that have never been surveyed for plant-feeding beetles. Most specimens were collected by the senior author within five state nature preserves in 2004–2007: Crooked Creek Barrens (Lewis County) and Blue Licks Battlefield (Robertson County) in northeastern Kentucky, Eastview Barrens (Hardin County) and Thompson Creek Glades (LaRue County) in central Kentucky, and Raymond Athey Barrens (Logan County) in western Kentucky. Voucher specimens are housed in the Kentucky State University Insect Collection.

For each chrysomeline species documented for Kentucky, the following data are presented: state-level distribution in the United States (from Riley et al. 2003), Kentucky county records, abundance by year and month in Kentucky, and specimens per collection. When present on specimen labels, other pertinent information, such as the method of collection and plant association information, is presented in the “Comments” section for each species. This information provides the opportunity to determine, from a historical perspective, abundance, seasonality, and distribution. One should note that plant collection records taken from specimen labels are notoriously inaccurate and may not reflect true host plants (Clark et al. 2004).

### RESULTS

According to the “Catalog of Leaf Beetles of America North of Mexico” (Riley et al. 2003), there were 48 species of Chrysomelinae recorded in at least one of the seven states contiguous to Kentucky, thus establishing a “ballpark” estimate for the state. However, in that work only 14 species were listed from Kentucky. An examination of 846 chrysomeline leaf beetle specimens from the major collections in the state and others known to contain Kentucky specimens revealed 21 species, including 13 of the 14 recorded in Riley et al. (2003) plus eight new state records (Table 1). A twenty-second species, *Gastrophysa polygoni* (L.), was reported from Kentucky by Riley et al. (2003).

The state collection at the University of Kentucky (UKIC) contains a total of 488 chrysomeline leaf beetles representing 13 species, including four of the new state records reported herein. This collection contains the oldest in-state specimen records for Kentucky leaf beetles, with collection dates as early as 1889. The CWIC collection has 59 specimens representing ten species, including one of the new state records reported herein. The collection at WKUC has 41 specimens of seven species. Recent collecting in state nature preserves (the KYSU collection) has produced 154 specimens of eleven species and three new state records. The RJBC collection contains 61 specimens of nine species from Kentucky. An examination of the BYUC revealed 37 specimens in eleven



Table 1. List of Chrysomelinae (Coleoptera: Chrysomelidae) recorded from Kentucky, with number of Kentucky specimens examined, number of Kentucky county records, range of years of collection in Kentucky, and new state records.

<i>Chrysolina cribaria</i> (Rogers)	4 specimens: 3 counties, 2004–2006 (new state record)
<i>Chrysolina quadrigemina</i> (Suffrian)	4 specimens: 1 county, 2005 (new state record)
<i>Calligrapha alnicola</i> Brown	1 specimen: 1 county, 1994
<i>Calligrapha androwi</i> S. Clark & Cavey	1 specimen: 1 county, 1994
<i>Calligrapha bidenticola</i> Brown	17 specimens: 7 counties, 1894–2006
<i>Calligrapha californica coreopsivora</i> Brown	1 specimen: 1 county, 2006 (new state record)
<i>Calligrapha multipunctata</i> (Say)	1 specimen: 1 county, 1946 (new state record)
<i>Calligrapha philadelphica</i> (L.)	4 specimens: 2 counties, 1988–1994
<i>Calligrapha pnirsa</i> Stål	1 specimen: 1 county, 1948 (new state record)
<i>Calligrapha spiraeae</i> (Say)	2 specimens: 2 counties, 1983–1992 (new state record)
<i>Zygogramma suturalis</i> (F.)	111 specimens: 23 counties, 1889–2007
<i>Labidomera clivicollis</i> (Kirby)	64 specimens: 26 counties, 1892–2007
<i>Leptinotarsa decemlineata</i> (Say)	88 specimens: 10 counties, 1889–2007
<i>Leptinotarsa juncta</i> (Germar)	85 specimens: 31 counties, 1892–2006
<i>Gastrophysa cyanea</i> F. E. Melsheimer	146 specimens: 13 counties, 1890–2004 (new state record)
<i>Gastrophysa polygona</i> (L.)	State-level literature record only
<i>Phaedon viridis</i> F. E. Melsheimer	6 specimens: 2 counties, 1891–1895
<i>Phratora americana americana</i> (Schaeffer)	9 specimens: 1 county, 1974 (new state record)
<i>Chrysomela interrupta</i> F.	4 specimens: 2 counties, 1988–1994
<i>Chrysomela knabi knabi</i> Brown	271 specimens: 31 counties, 1891–2006
<i>Chrysomela scripta</i> F.	8 specimens: 7 counties, 1901–2006
<i>Plagioderma versicolora</i> (Laicharting)	18 specimens: 8 counties, 1965–2006

species. Six specimens in two species of chrysomeline leaf beetles were found in the historical Dury Collection (CMNH), which comprises approximately 75,000 specimens primarily collected between 1871 and 1931 in the Cincinnati/northern Kentucky area (Vulinec and Davis 1984).

*Chrysolina cribaria* (Rogers) (Figure 1A) (new state record)

Kentucky Counties: Hardin, LaRue, Logan  
Years: 2004 (1), 2005 (1), 2006 (2)  
Months: June (2), July (1), September (1)  
Abundance: 4 specimens: 4-KYSU

Comments: All four specimens were recently collected in state nature preserves: Eastview Barrens, Thompson Creek Glades, and Raymond Athey Barrens.

*Chrysolina quadrigemina* (Suffrian) (Figure 1B) (new state record)

Kentucky Counties: Logan  
Years: 2005 (4)  
Months: June (4)  
Abundance: 4 specimens: 4-KYSU

Comments: All four specimens were recently collected in one month in one management unit of Raymond Athey Barrens

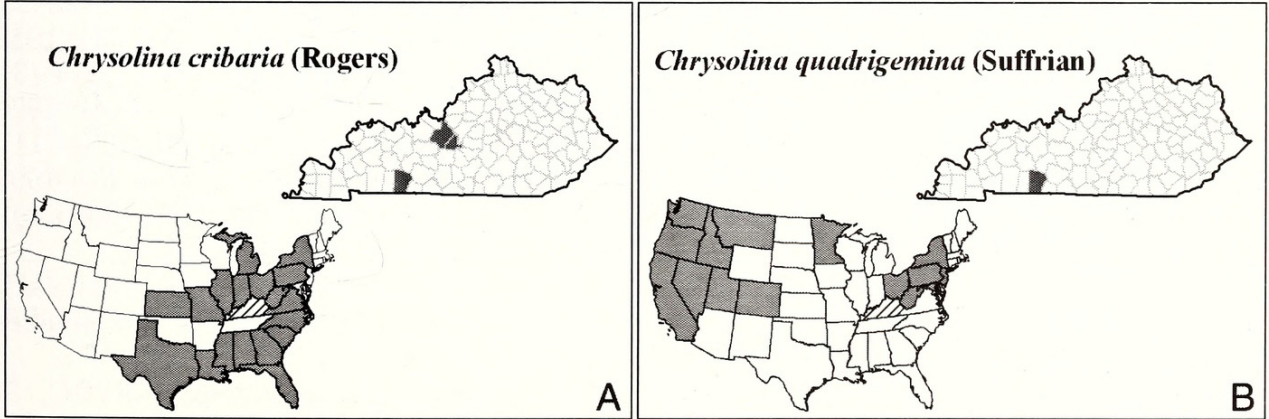


Figure 1. The known distribution of Chrysomelinae (Coleoptera: Chrysomelidae) illustrated in grey shading for Kentucky counties and states of the United States. New state records reported herein are shown in cross-hatch.



State Nature Preserve. This species was introduced in eastern Canada and the Pacific Northwest to control Klamath weed and feeds on *Hypericum* spp. (Clark et al. 2004).

*Calligrapha alnicola* Brown (Figure 2A)

Kentucky Counties: Rowan

Years: 1994 (1)

Months: May (1)

Abundance: 1 specimen: 1-BYUC

Comments: This species feeds on *Alnus incana* (L.) Moench. (Clark et al. 2004).

*Calligrapha androwi* S. Clark & Cavey (Figure 2B)

Kentucky Counties: Rowan

Years: 1994 (1)

Months: May (1)

Abundance: 1 specimen: 1-California Academy of Sciences

Comments: This is a recently described species from specimens collected in Ohio, Kentucky, West Virginia and Alabama. This paratype specimen is housed in the California Academy of Sciences (Clark and Cavey 1995).

*Calligrapha bidenticola* Brown (Figure 2C)

Kentucky Counties: Anderson, Bracken, Fayette, Franklin, Lewis, Russell, Warren

Years: 1894 (4), 1928 (1), 1938 (1), 1992 (2), 1993 (1), 1995 (1), 1998 (2), 2005 (4), 2006 (1)

Months: April (1), May (1), June (1), July (5), August (6), September (3)

Abundance: 17 specimens: 2-BYUC, 4-CWIC, 4-KYSU, 6-UKIC, 1-WKUC

Comments: This species has been associated with Asteraceae (Clark et al. 2004).

*Calligrapha californica coreopsivora* Brown (Figure 2D) (new state record)

Kentucky Counties: Franklin

Years: 2006 (1)

Months: May (1)

Abundance: 1 specimen: 1-KYSU

Comments: This single specimen, a new state record, was collected in a recently established local nature preserve in Frankfort, KY.

*Calligrapha multipunctata* (Say) (Figure 2E) (new state record)

Kentucky Counties: Fayette

Years: 1946 (1)

Months: October (1)

Abundance: 1 specimen: 1-UKIC

Comments: This species feeds on *Salix* spp. (Clark et al. 2004).

*Calligrapha philadelphica* (L.) (Figure 2F)

Kentucky Counties: McCreary, Menifee

Years: 1988 (1), 1990 (1), 1994 (2)

Months: May (4)

Abundance: 4 specimens: 4-BYUC

Comments: Hosts are species of *Cornus* (Clark et al. 2004).

*Calligrapha pnirsa* Stål (Figure 2G) (new state record)

Kentucky Counties: Lincoln

Years: 1948 (1)

Months: April (1)

Abundance: 1 specimen: 1-UKIC

Comments: This species feeds on *Tilia americana* (L.) (Clark et al. 2004).

*Calligrapha spiraeae* (Say) (Figure 2H) (new state record)

Kentucky Counties: Fayette, Franklin

Years: 1983 (1), 1992 (1)

Months: April (1), June (1)

Abundance: 2 specimens: 1-CWIC, 1-RJBC

Comments: The host of this species is *Physocarpus opulifolius* (L.) Maxim. (Clark et al. 2004).

*Zygogramma suturalis* (F.) (Figure 3A)

Kentucky Counties: Barren, Bracken, Breathitt, Carter, Fayette, Franklin, Grayson, Hardin, Jefferson, Kenton, LaRue, Laurel, Lewis, Lincoln, Logan, Muhlenburg, Pendleton, Robertson, Rowan, Russell, Warren, Washington, Woodford

Years: 1889 (6), 1890 (2), 1891(4), 1892 (2), 1893 (1), 1894 (9), 1895 (3), 1912 (1), 1913 (2), 1917 (1), 1937 (10), 1938 (3), 1944 (3), 1948 (1), 1962 (1), 1965 (1), 1968 (4), 1970 (1), 1977 (1), 1979 (1), 1983 (2), 1984 (11), 1987 (5), 1989 (1), 1991 (1), 1994 (3), 1995 (3), 1998 (3), 2001 (3), 2004 (3), 2005 (9), 2006 (4), 2007 (6)

Months: March (1), April (3), May (11), June (17), July (36), August (33), September (7), October (3)

Abundance: 111 specimens: 6-BYUC, 3-CWIC, 19-KYSU, 21-RJBC, 52-UKIC, 10-WKUC



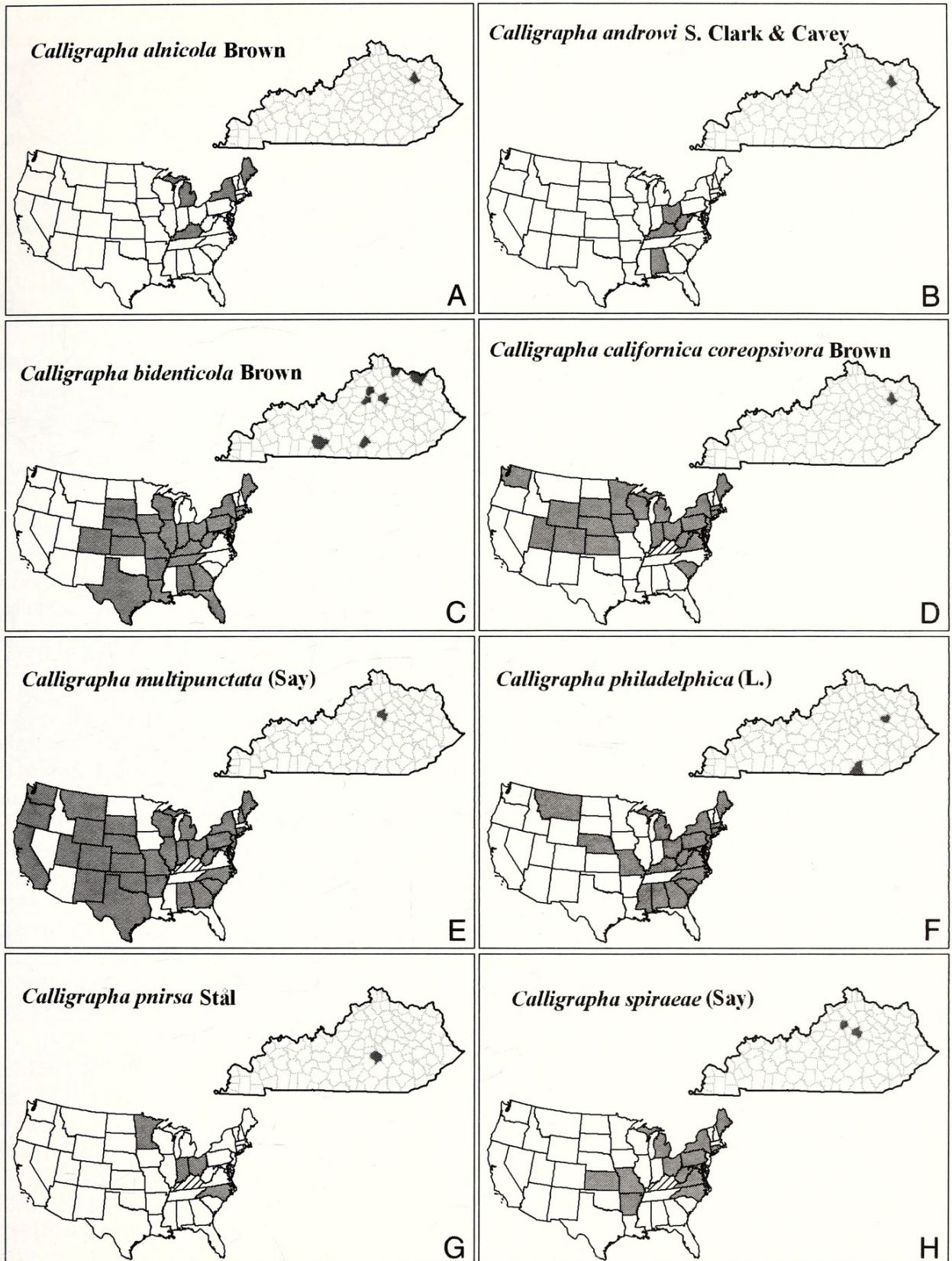


Figure 2. The known distribution of Chrysomelinae (Coleoptera: Chrysomelidae) illustrated in grey shading for Kentucky counties and states of the United States. New state records reported herein are shown in cross-hatch.



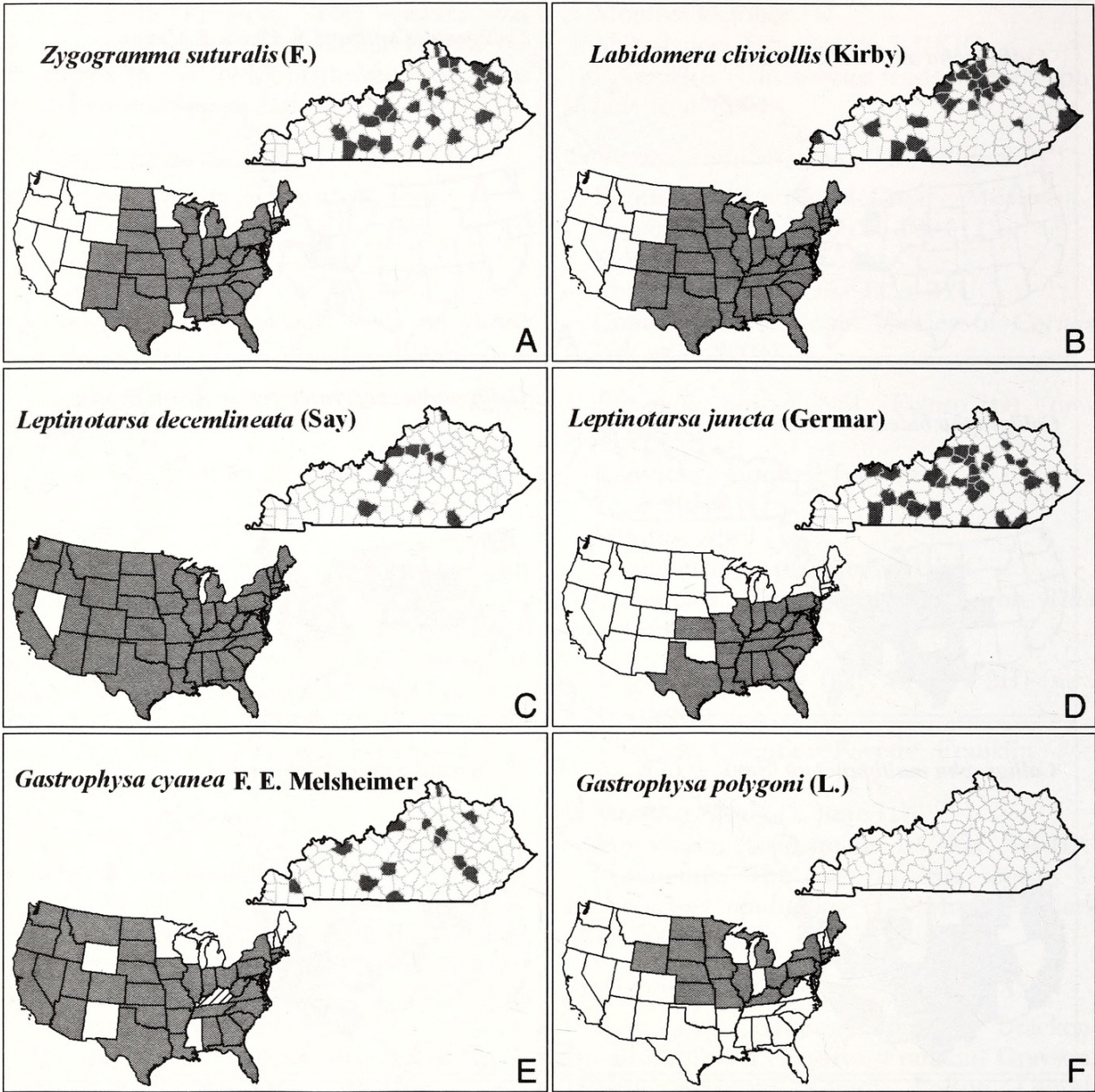


Figure 3. The known distribution of Chrysomelinae (Coleoptera: Chrysomelidae) illustrated in grey shading for Kentucky counties and states of the United States. New state records reported herein are shown in cross-hatch.

Comments: Label data on UKIC specimens from the 1890s noted ‘smartweed’, ‘A. cornut’, and ‘English bluegrass’. This species feeds on ragweeds, *Ambrosia* spp. (Clark et al. 2004).

*Labidomera clivicollis* (Kirby) (Figure 3B)

Kentucky Counties: Allen, Ballard, Bourbon, Bullitt, Carroll, Fayette, Franklin, Grant, Grayson, Greenup, Henry, Hopkins, Jefferson, Kenton, Lawrence, Logan, Mercer, Nelson, Nicholas, Oldham, Owen, Owsley, Pike, Scott, Warren, Woodford

Years: 1892 (1), 1893 (2), 1894 (2), 1921 (1), 1938 (3), 1939 (1), 1940 (1), 1941 (2), 1944 (1), 1946 (6), 1947 (1), 1948 (3), 1950 (4), 1956 (1), 1959 (1), 1961 (1), 1965 (1), 1966 (1), 1967 (1), 1968 (1), 1969 (1), 1971 (4), 1972 (1), 1973 (2), 1978 (1), 1979 (2), 1983 (1), 1984 (1), 1987 (2), 1991 (1), 1993 (2), 1995 (1), 1999 (1), 2002 (1), 2003 (3), 2004 (1), 2005 (3), 2007 (1)

Months: April (2), May (8), June (16), July (7), August (7), September (10), October (13), November (1)

Abundance: 64 specimens: 1-BYUC, 9-CWIC, 3-KYSU, 4-RJBC, 36-UKIC, 11-WKUC



Comments: Label data on UKIC specimens from the 1890s noted '*Asclepias incarnata*', and '*Eupatorium perfoliatum*'. This species feeds on Asclepiadaceae (Clark et al. 2004).

*Leptinotarsa decemlineata* (Say) (Figure 3C)

Kentucky Counties: Campbell, Fayette, Franklin, Hardin, Jefferson, Russell, Shelby, Warren, Whitley, Woodford

Years: 1889 (3), 1892 (34), 1915 (4), 1922 (1), 1928 (2), 1937 (2), 1961 (1), 1965 (1), 1968 (2), 1971 (3), 1978 (1), 1983 (2), 1984 (1), 1988 (1), 1991 (1), 1998 (5), 2001 (1), 2005 (20), 2007 (3)

Months: April (1), May (10), June (12), July (56), August (7), September (1), October (1)

Abundance: 88 specimens: 5-CMNH, 1-CWIC, 23-KYSU, 3-RJBC, 52-UKIC, 4-WKUC

Comments: The Colorado potato beetle has a well documented association with *Solanum tuberosum* L. Labels noted some specimens collected by Malaise trap.

*Leptinotarsa juncta* (Germar) (Figure 3D)

Kentucky Counties: Anderson, Barren, Bell, Boyle, Breathitt, Butler, Campbell, Casey, Christian, Clinton, Daviess, Fayette, Floyd, Franklin, Hardin, Henderson, Jefferson, Jessamine, LaRue, Lincoln, Marion, Menifee, Mercer, Montgomery, Muhlenberg, Nicholas, Shelby, Spencer, Warren, Whitley, Wolfe

Years: 1892 (1), 1893 (1), 1905 (5), 1911 (1), 1922 (2), 1923 (1), 1925 (1), 1927 (2), 1935 (3), 1937 (9), 1938 (8), 1939 (1), 1940 (2), 1942 (1), 1944 (2), 1945 (2), 1946 (5), 1947 (2), 1948 (3), 1949 (2), 1950 (3), 1951 (3), 1952 (2), 1953 (1), 1955 (1), 1956 (1), 1957 (1), 1963 (1), 1967 (3), 1968 (1), 1983 (1), 1987 (2), 1995 (1), 2001 (1), 2003 (2), 2004 (1), 2005 (3), 2006 (3)

Months: March (3), April (8), May (24), June (12), July (5), August (8), September (17), October (7), December (1)

Abundance: 85 specimens: 1-BYUC, 1-CWIC, 1-KYSU, 8-RJBC, 70-UKIC, 4-WKUC

Comments: This species is often called the false potato beetle and feeds on *Solanum carolinense* L. (Clark et al. 2004). Jacques (1988) cites one Kentucky record for Campbell County in the Purdue University collection.

*Gastrophysa cyanea* F. E. Melsheimer (Figure 3E) (new state record)

Kentucky Counties: Clay, Daviess, Fayette, Fleming, Franklin, Hart, Jackson, Jefferson, Jessamine, Kenton, Marshall, Monroe, Warren

Years: 1890 (4), 1891 (69), 1892 (3), 1895 (3), 1901 (1), 1917 (8), 1923 (1), 1925 (1), 1930 (12), 1937 (4), 1938 (2), 1944 (1), 1949 (1), 1963 (1), 1968 (6), 1970 (4), 1971 (1), 1975 (5), 1976 (2), 1979 (5), 1992 (1), 1993 (1), 2000 (2), 2004 (8)

Months: January (2), March (2), April (16), May (35), June (89), August (2)

Abundance: 146 specimens: 12-CWIC, 7-RJBC, 120-UKIC, 7-WKUC

Comments: Label data (UKIC 1890s) noted collection from smartweed, lawn, wheat, dock, red clover, oats, white clover, *Rumex crispus*, and by Malaise trap. Normal hosts are species of *Rumex* (Polygonaceae) (Clark et al. 2004).

*Gastrophysa polygoni* (L.) (Figure 3F)

Comments: No specimens from Kentucky were seen during this study, but it was listed from the state by Riley et al. (2003). This species feeds on Polygonaceae (Clark et al. 2004).

*Phaedon viridis* F. E. Melsheimer (Figure 4A)

Kentucky Counties: Ballard, Fayette

Years: 1891 (1), 1894 (4), 1895 (1)

Months: May (1), July (1), November (1), December (3)

Abundance: 6 specimens: 6-UKIC

Comments: Label data (UKIC 1890s) noted collection from alfalfa, grain, clover, and weeds. The Ballard County (Wickliffe) record is from Balsbaugh's (1983) revision of *Phaedon*. Hosts of this species are Brassicaceae (Clark et al. 2004).

*Phratora americana americana* (Schaeffer) (Figure 4B) (new state record)

Kentucky Counties: Nelson

Years: 1974 (9)

Months: August (9)

Abundance: 9 specimens: 1-RJBC, 8-UKIC

Comments: This species is associated with *Salix* (Salicaceae) (Clark et al. 2004).

*Chrysomela interrupta* F. (Figure 4C)

Kentucky Counties: Jackson, Whitley



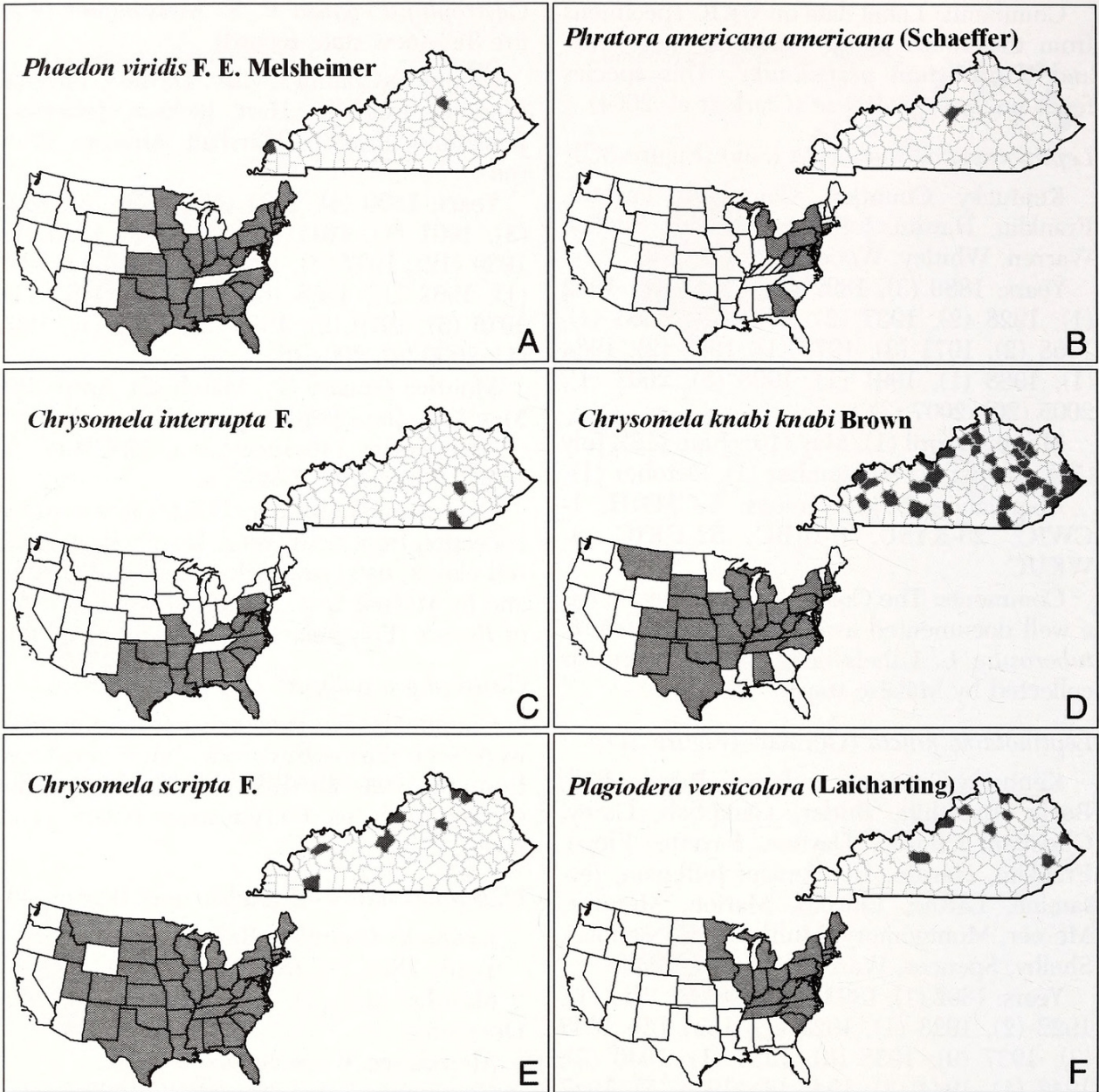


Figure 4. The known distribution of Chrysomelinae (Coleoptera: Chrysomelidae) illustrated in grey shading for Kentucky counties and states of the United States. New state records reported herein are shown in cross-hatch.

Years: 1988 (2), 1994 (2)  
Months: May (4)  
Abundance: 4 specimens: 4-BYUC  
Comments: Both adults and larvae are associated with *Alnus* (Betulaceae) (Clark et al. 2004).

*Chrysomela knabi knabi* Brown (Figure 4D)  
Kentucky Counties: Bath, Breathitt, Caldwell, Fayette, Fleming, Franklin, Gallatin, Grayson, Hardin, Henry, Jefferson, Kenton, Knott, Laurel, Letcher, Madison, Martin,

Meade, Menifee, Metcalfe, Muhlenberg, Owen, Owsley, Pike, Powell, Rowan, Union, Warren, Webster, Whitley, Wolfe  
Years: 1891 (4), 1895 (1), 1901 (12), 1927 (3), 1937 (1), 1939 (10), 1940 (2), 1941 (3), 1942 (10), 1958 (7), 1965 (1), 1966 (1), 1970 (58), 1971 (6), 1980 (11), 1982 (5), 1983 (1), 1990 (1), 1992 (2), 1993 (1), 1994 (17), 1995 (2), 2001 (1), 2003 (5), 2004 (4), 2005 (87), 2006 (14)  
Months: April (146), May (88), June (26), July (9), October (1)



Abundance: 271 specimens: 12-BYUC, 1-CMNH, 25-CWIC, 93-KYSU, 5-RJBC, 131-UKIC, 4-WKUC

Comments: There is no county, year or month available for one CMNH specimen. This species is associated with *Salix* (Salicaceae) (Clark et al. 2004).

*Chrysomela scripta* F. (Figure 4E)

Kentucky Counties: Bracken, Fayette, Hardin, Jefferson, Mason, Trigg, Webster

Years: 1901 (1), 1970 (1), 1971 (1), 1998 (3), 2005 (1), 2006 (1)

Months: May (2), June (2), July (4)

Abundance: 8 specimens: 3-BYUC, 1-CWIC, 1-KYSU, 3-UKIC

Comments: The Mason County (Maysville) record is from Brown's (1956) revision of *Chrysomela*. This species is associated with *Salix* and *Populus* (Salicaceae) (Clark et al. 2004).

*Plagioderma versicolora* (Laicharting) (Figure 4F)

Kentucky Counties: Bracken, Fayette, Grayson, Henry, Jefferson, Knott, Martin, Nicholas

Years: 1965 (1), 1981 (7), 1983 (4), 1998 (2), 2003 (2), 2006 (1)

Months: May (8), June (6), July (2), August (1)

Abundance: 18 specimens: 2-BYUC, 2-CWIC, 1-KYSU, 11-RJBC, 2-UKIC

Comments: There is no county, year or month available for one UKIC specimen. This species is associated with Salicaceae (Clark et al. 2004).

## DISCUSSION

We believe the data presented here are the most complete representation of the chrysomeline leaf beetles known from Kentucky. The large number of new state records documented here (8 of 22, or 35%) reflects a historical lack of leaf beetle collecting in Kentucky. Three of the eight new state records are based on a single specimen, and eleven of the 22 species have been documented from only one or two counties. Six species accounted for 765 of the 846 specimens reviewed in this study, leaving only 81 beetles for the other 16 species. These data, plus the fact that the ballpark estimate for Kentucky Chrysomelinae is 48 species and that we

found only 22 species, indicate that many more species may still out there to be found.

The host plant switch of the Colorado potato beetle, from the native buffalo bur (*Solanum rostratum* Dunal) to cultivated potato (*S. tuberosum* L.), enabled this large showy beetle, first found in the area of the Rocky Mountains, to exploit a changing landscape and become a widespread economic pest (Jacques 1988). Examples such as this are a reminder why it is so important to document the presence and distribution of our native and exotic flora and fauna.

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## LITERATURE CITED

- Balsbaugh, E. U. 1983. A taxonomic revision of the genus *Phaedon* north of Mexico (Coleoptera: Chrysomelidae). North Dakota Insects, Schafer-Post Series No. 15:1-73.
- Barney, R. J., S. M. Clark, and E. G. Riley. 2007. Annotated list of the leaf beetles (Coleoptera: Chrysomelidae) of Kentucky: subfamily Cassidinae. Journal of the Kentucky Academy of Science 68:132-144.
- Barney, R. J., S. M. Clark, and E. G. Riley. 2008. Annotated list of the leaf beetles (Coleoptera: Chrysomelidae) of Kentucky: subfamilies Donaciinae and Criocerinae. Journal of the Kentucky Academy of Science 69:29-36.
- Brown, W. J. 1956. The New World species of *Chrysomela* L. (Coleoptera: Chrysomelidae). The Canadian Entomologist 88(supplement No. 3): 1-54.
- Clark, S. M., and J. F. Cavey. 1995. A new species of *Calligrapha* (Coleoptera: Chrysomelidae) from eastern North America. Insecta Mundi 9:329-333.
- Clark, S. M., D. G. LeDoux, T. N. Seeno, E. G. Riley, A. J. Gilbert, and J. M. Sullivan. 2004. Host plants of leaf beetle species occurring in the United States and Canada. Coleopterists Society, Special Publication No. 2. 476 pp.
- Daccordi, M. 1994. Notes for phylogenetic study of Chrysomelinae, with descriptions of new taxa and a list



- of all known genera (Coleoptera: Chrysomelidae, Chrysomelinae). Pages 60–84 in D. G. Furth (ed), Proceedings of the Third International Symposium on the Chrysomelidae, Beijing, 1992. Backhuys.
- Jacques, R. L. 1988. The potato beetles. The genus *Leptinotarsa* in North America (Coleoptera: Chrysomelidae). Flora and Fauna Handbook No. 3. J. E. Brill, Leiden. 144 pp.
- Jones, R. L. 2005. Plant Life of Kentucky. University Press of Kentucky. 834 pp.
- Riley, E. G., S. M. Clark, R. W. Flowers, and A. J. Gilbert. 2002. Chrysomelidae Latreille 1802. Pages 617–691 in R. H. Arnett and M. C. Thomas (eds). American beetles. CRC press.
- Riley, E. G., S. M. Clark, and T. N. Seeno. 2003. Catalog of the leaf beetles of America north of Mexico. Coleopterists Society, Special Publication No. 1. 290 pp.
- Vulinec, K., and R. A. Davis. 1984. Coleoptera types in the Charles Dury Collection of the Cincinnati Museum of Natural History. Coleopterists Bulletin 38:232–239.
- Wilcox, J. A. 1972. A review of the North American Chrysomelinae leaf beetles (Coleoptera: Chrysomelidae). New York State Museum and Science Service Bulletin 421:1–37.





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<https://doi.org/10.3101/1098-7096-69.2.91>.

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