

Acalypta lillianus

Lace Bug

Class: Insecta
 Order: Heteroptera
 Family: Tingidae

Priority Score: **19** out of 100



Population Trend: Unknown

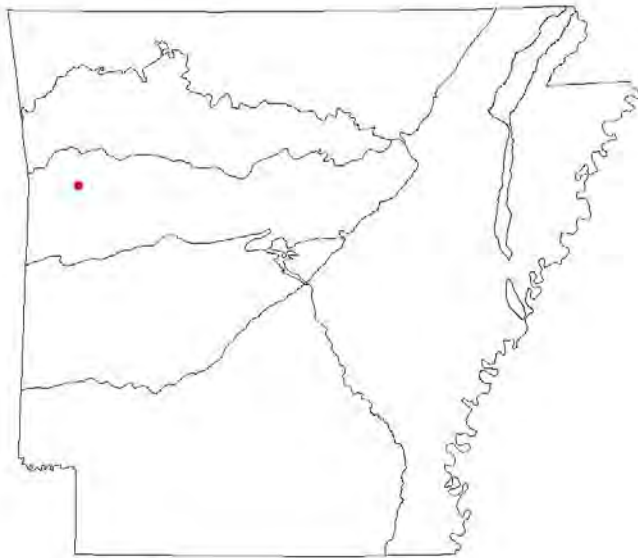
Global Rank: G3 — Vulnerable species

State Rank: SNR — Species not ranked in Arkansas



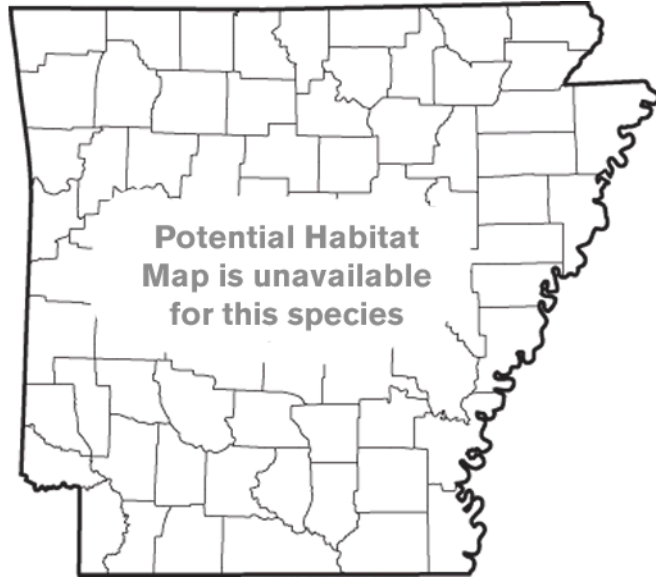
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Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Prairie and Woodland

Weight

Optimal

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
Source: Forestry activities

Loss of habitat to development.

Threat: Habitat destruction or conversion
Source: Urban development

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An Arkansas endemic insect limited to the Arkansas Valley (Robison and Allen 1995).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Acalypta susanae

Lace Bug

Class: Insecta
 Order: Heteroptera
 Family: Tingidae

Priority Score: **23** out of 100



Population Trend: Unknown

Global Rank: GNR — Not yet ranked

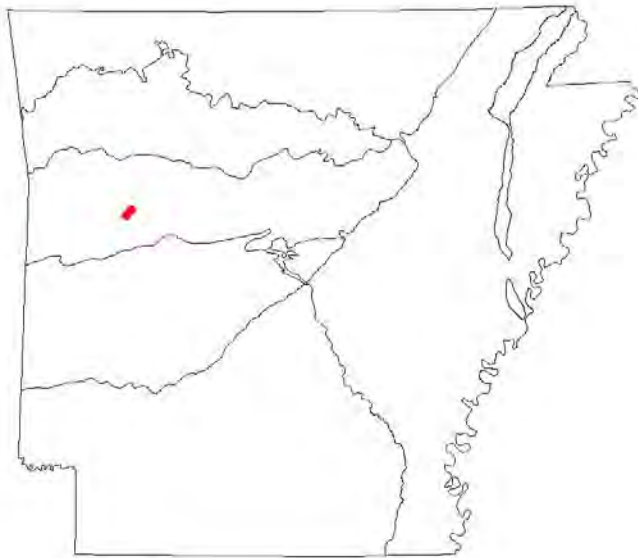
State Rank: S1 — Critically imperiled in Arkansas



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Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Mesic Hardwood Forest

Weight

Optimal

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
Source: Forestry activities

Loss of habitat to development.

Threat: Habitat destruction or conversion
Source: Urban development

Data Gaps/Research Needs

Obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An Arkansas endemic insect (Allen and others 1988). Several specimens of this species were collected near the Buffalo National River, Newton County in 2013 (A. Dowling, pers. Comm).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Agapetus medicus

Arkansas Agapetus Caddisfly

Class: Insecta

Order: Trichoptera

Family: Glossosomatidae

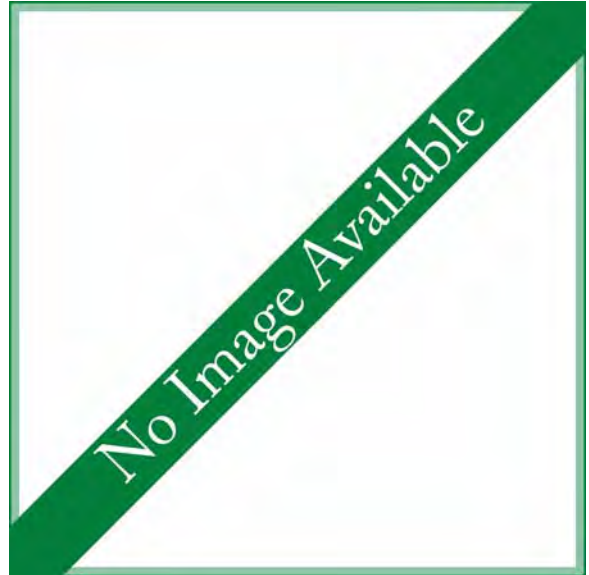
Priority Score: **50** out of 100



Population Trend: Unknown

Global Rank: G1G2 — Critically imperiled (uncertain rank)

State Rank: SNR — Species not ranked in Arkansas



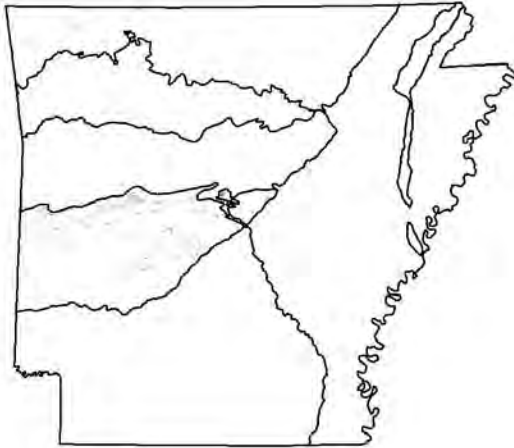
Distribution

Element Occurrence Records

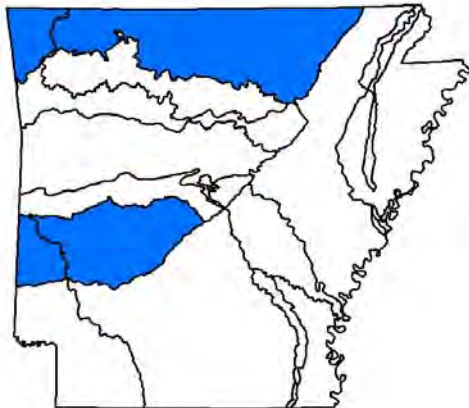
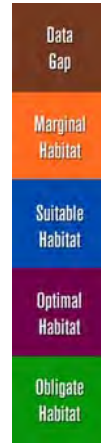


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Ouachita Mountains - Ouachita River

Ouachita Mountains - Red River

Ozark Highlands - Arkansas River

Ozark Highlands - White River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Riffle: - Small Suitable

Agapetus medicus
Arkansas Agapetus Caddisfly

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions	Importance	Category
More data are needed to determine conservation actions.	Medium	Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An Arkansas endemic insect known from five counties in the state. Inhabits cool, swift-moving mountain streams (Ross 1938).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Allocapnia jeanae

Winter Stonefly

Class: Insecta
 Order: Plecoptera
 Family: Capniidae

Priority Score: **50** out of 100



Population Trend: Unknown

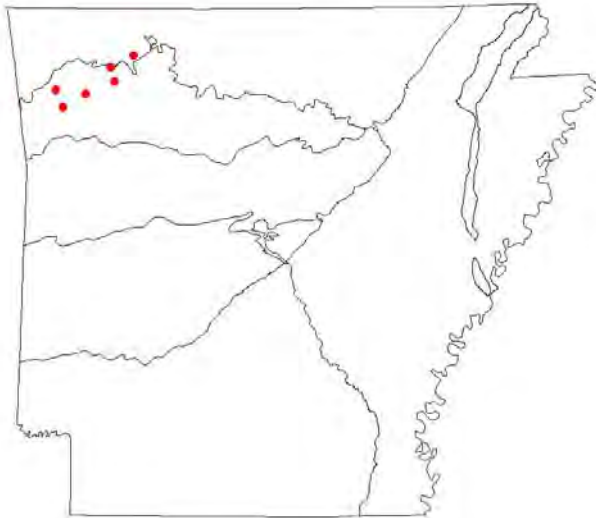
Global Rank: G2 — Imperiled species

State Rank: S1? — Critically imperiled in Arkansas (inexact numeric rank)



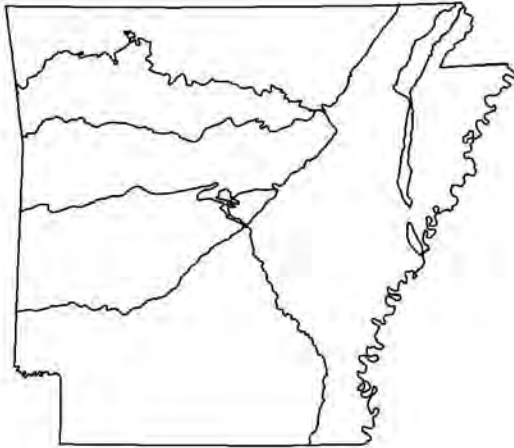
Distribution

Element Occurrence Records

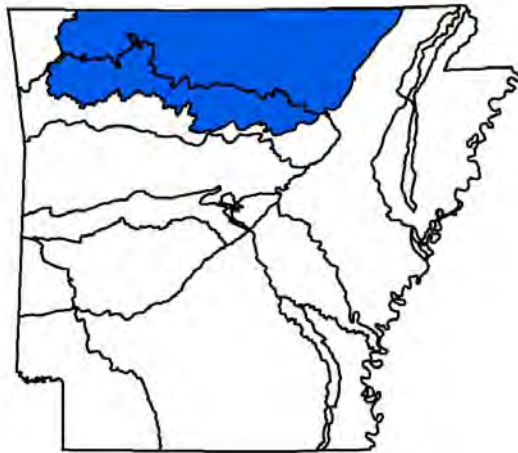
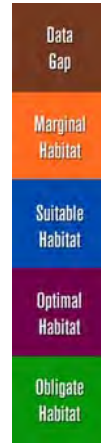


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - Arkansas River

Boston Mountains - White River

Ozark Highlands - White River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Pool: - Small Suitable

Natural Riffle: - Small Suitable

Allocapnia jeanae
Winter Stonefly

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic stonefly found only in the Ozark Mountains of Arkansas.

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Allocapnia malverna

Winter Stonefly

Class: Insecta
 Order: Plecoptera
 Family: Capniidae

Priority Score: **11** out of 100



Population Trend: Unknown

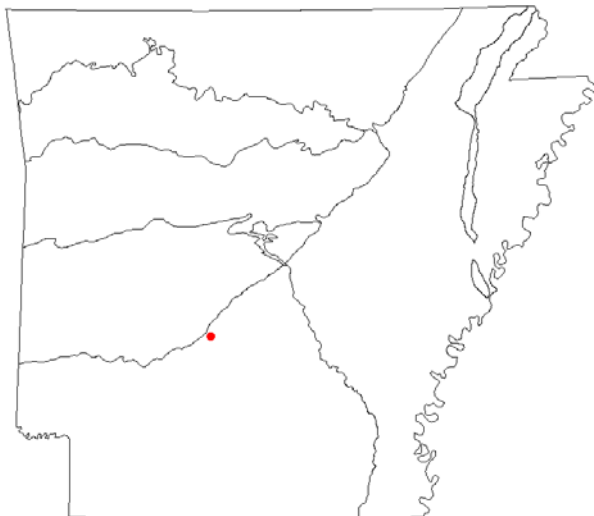
Global Rank: G4 — Apparently secure species

State Rank: SNR — Species not ranked in Arkansas



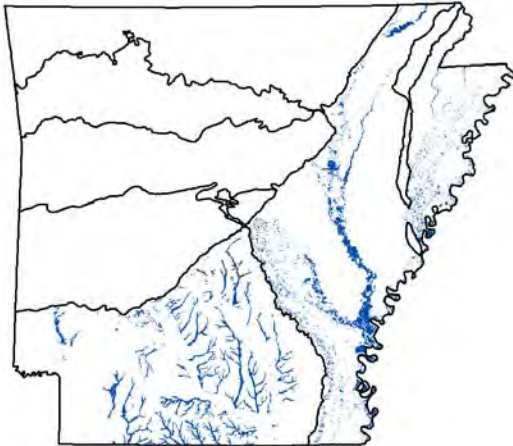
Distribution

Element Occurrence Records

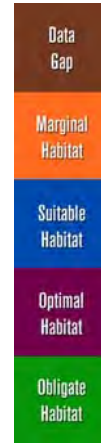


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

South Central Plains - Ouachita River

Terrestrial Habitats

Lower Mississippi River Riparian Forest Suitable

West Gulf Coastal Plain Small Stream/River Forest Suitable

Aquatic Habitats

Natural Pool: - Small - Medium Data Gap

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic stonefly found only in Arkansas.

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Allocapnia oribata

Bowed Snowfly

Class: Insecta

Order: Plecoptera

Family: Capniidae

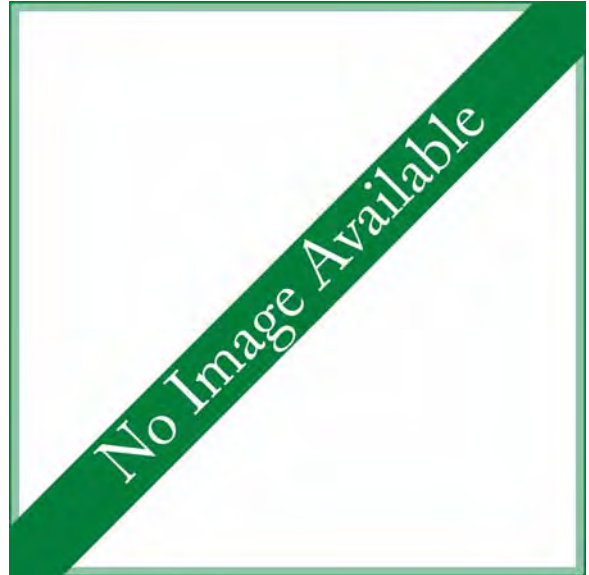
Priority Score: **80** out of 100



Population Trend: Unknown

Global Rank: G1 — Critically imperiled species

State Rank: S1 — Critically imperiled in Arkansas



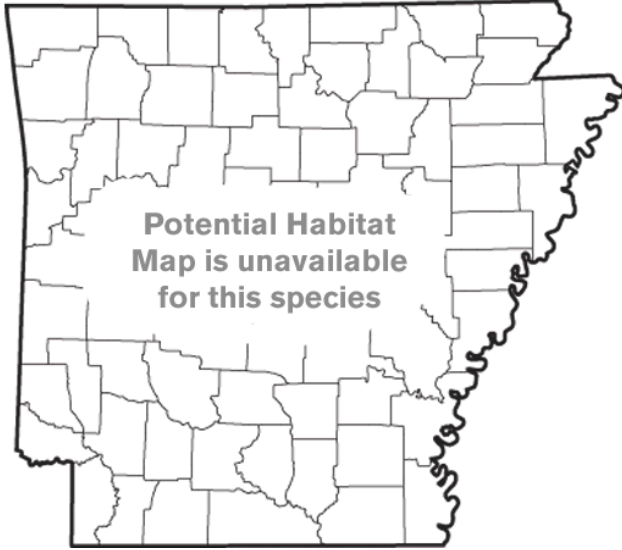
Distribution

Element Occurrence Records

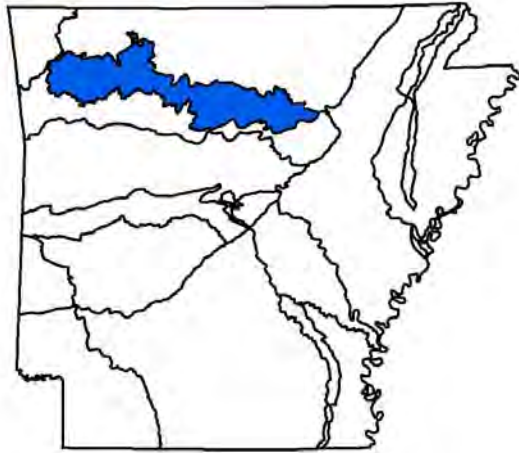


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - White River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Riffle: - Small - Medium Suitable

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic stonefly known only from the Middle Fork of the Little Red River in Searcy County Poulton and Stewart 1987).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Allocapnia ozarkana

Winter Stonefly

Class: Insecta
 Order: Plecoptera
 Family: Capniidae

Priority Score: **50** out of 100



Population Trend: Unknown

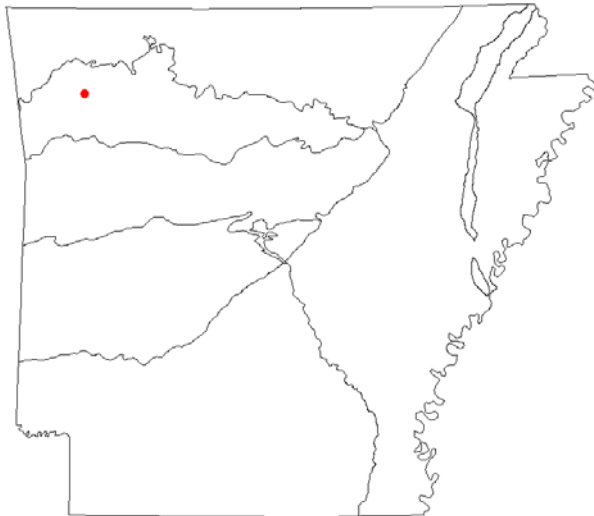
Global Rank: G2 — Imperiled species

State Rank: S1? — Critically imperiled in Arkansas (inexact numeric rank)



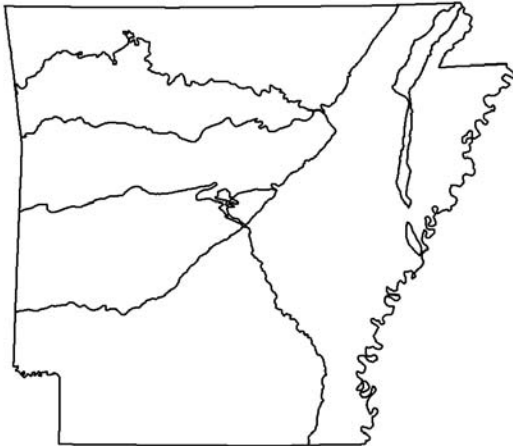
Distribution

Element Occurrence Records

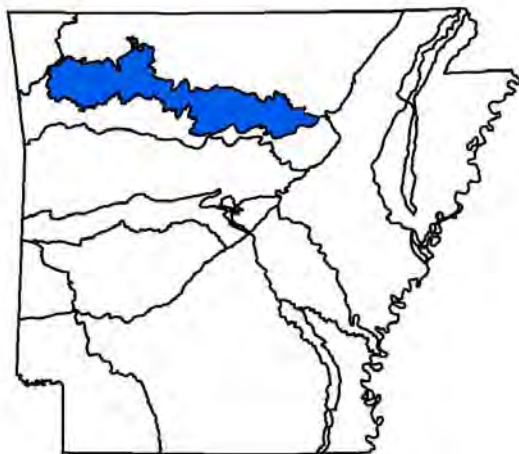


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - White River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Pool: - Small - Medium Data Gap

Natural Riffle: - Small Suitable

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions	Importance	Category
More data are needed to determine conservation actions.	Medium	Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic stonefly known only from Cannon Creek in Madison County (Ross 1964).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Allocapnia warreni

Winter Stonefly

Class: Insecta
 Order: Plecoptera
 Family: Capniidae

Priority Score: **80** out of 100



Population Trend: Unknown

Global Rank: GH — Possibly extinct

State Rank: SH — Historic record. Possibly extirpated in Arkansas



Distribution

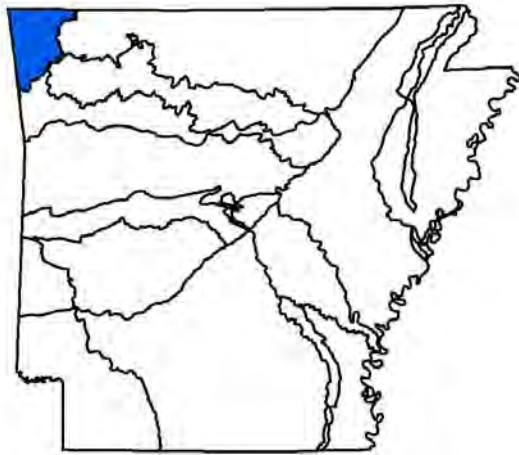
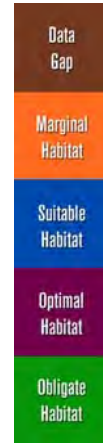
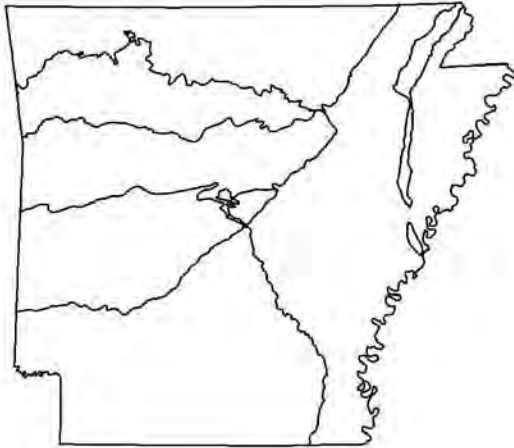
Element Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains

Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Riffle: - Small Suitable

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

Known only from Clear Creek in the city of Fayetteville. This stonefly is now thought to be extinct after Fayetteville began dumping treated sewage effluent into Clear Creek in 1988. This species has not been recollected since 1962 (Robison and Allen 1995).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Alloperla caddo

Caddo Sallfly

Class: Insecta

Order: Plecoptera

Family: Chloroperlidae

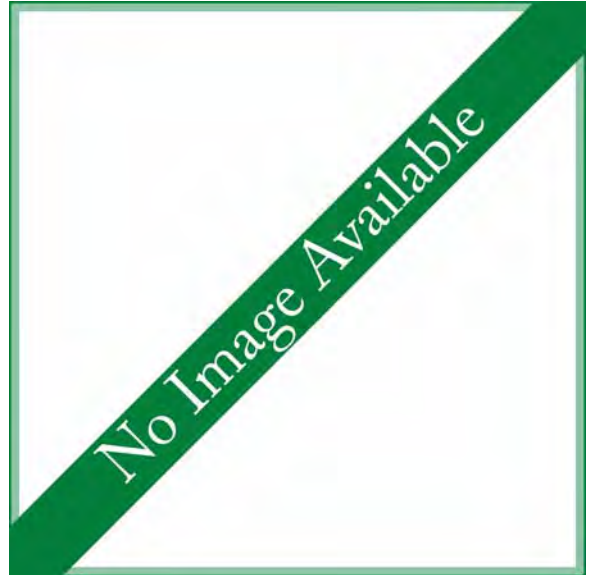
Priority Score: **65** out of 100



Population Trend: Unknown

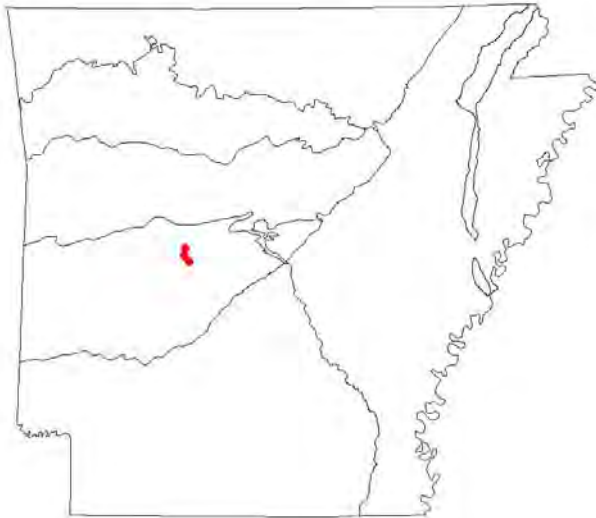
Global Rank: G1G2 — Critically imperiled (uncertain rank)

State Rank: S1 — Critically imperiled in Arkansas



Distribution

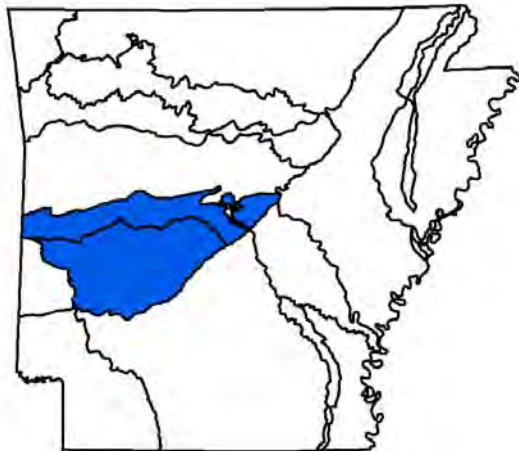
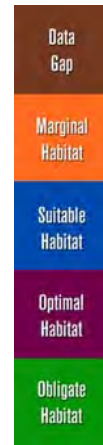
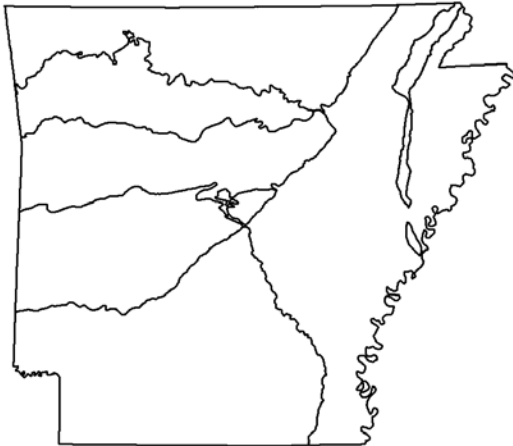
Element Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains

Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Ouachita Mountains - Ouachita River

Aquatic Habitats

Natural Riffle: - Small

Suitable

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

A recently described species of the Ouachita subregion of Arkansas. Known from fewer than five occurrences, usually small intermittent streams in Garland Co., Perry Co., Scott Co., Arkansas. (Poulton and Stewart 1987, Robison and Allen 1995, Stark 1998)

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Amblyscirtes aesculapius

Lace-winged Roadside-Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **27** out of 100



Population Trend: Unknown

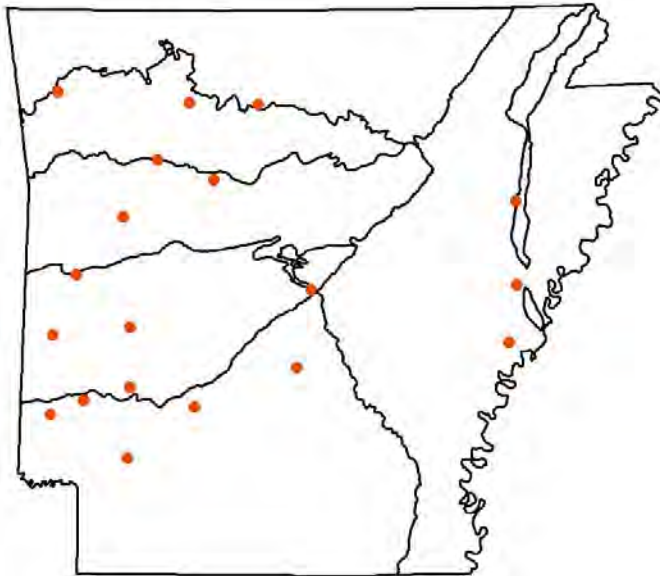
Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S1S3 — Critically imperiled in Arkansas (uncertain rank)



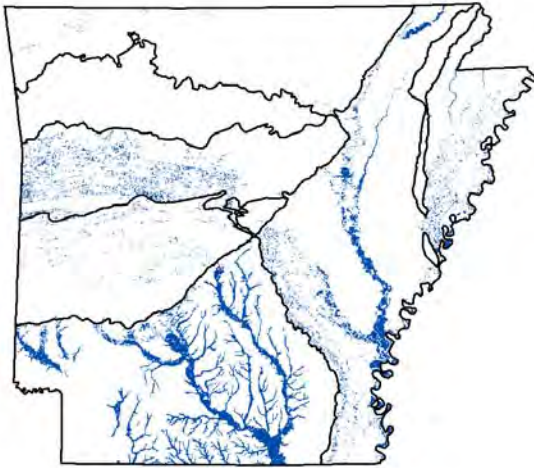
©Herschel Raney

Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

	Weight
Lower Mississippi River High Bottomland Forest	Suitable
Lower Mississippi River Riparian Forest	Suitable
Ozark-Ouachita Large Floodplain	Optimal
Ozark-Ouachita Riparian	Optimal
West Gulf Coastal Plain Large River Floodplain Forest	Suitable
West Gulf Coastal Plain Small Stream/River Forest	Suitable

Problems Faced

Fire suppression.	Threat: Alteration of natural fire regimes Source: Fire suppression
Loss of canebrake habitat.	Threat: Habitat destruction or conversion Source: Conversion of riparian forest

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance **Category**

Medium Data Gap

Monitoring Strategies

Need a thorough survey of high-quality canebrakes to determine status of this and other cane-dependent species in the state.

Comments

Considered by Schweitzer et al. (2011) to be the most secure of the cane-feeding skippers in the genus *Amblyscirtes*, but note that its occurrence and population viability are not well known. In Missouri regarded as very local, found in only a few scattered localities in the southern portion of the state (Heitzman and Heitzman 1996). Spencer (2006) characterizes this skipper as being rare to uncommon statewide in canebrakes. Recorded from 27 Arkansas counties (Baltosser et al. 2015); widely distributed and fairly common in high-quality cane habitats of northern Arkansas (Dr. William Baltosser, personal communication, 2015), whereas records from south-central and southwestern counties generally consist of one or two individuals (Drs. Craig Rudolph and Charles Ely, personal communication, 2015). An on-going study of skippers in the genus *Amblyscirtes* by Baltosser (Dr. William Baltosser, personal communication, 2015) will provide additional information, but at present there is insufficient information to fully evaluate the status of the species. Continued surveys of cane habitats throughout Arkansas are needed before any change in listing.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Amblyscirtes belli

Bell's Roadside-Skipper

Class: Insecta

Order: Lepidoptera

Family: Hesperiidae

Priority Score: **21** out of 100



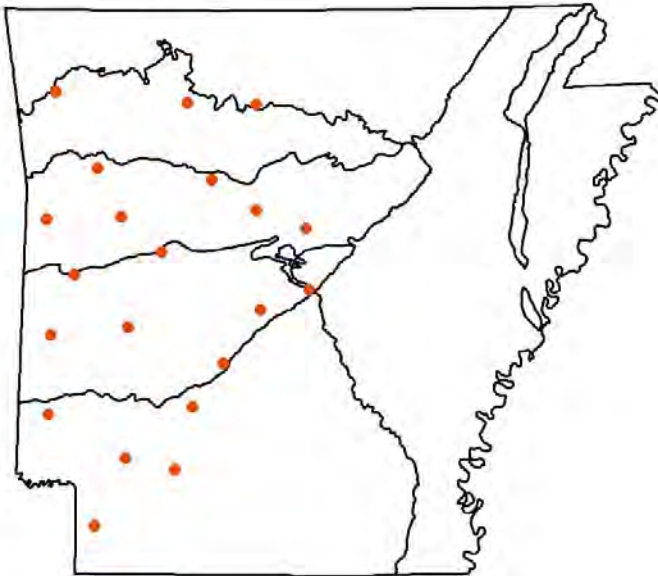
Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S3S4 — Vulnerable species in Arkansas (uncertain rank)

Distribution

Occurrence Records



Ecoregions where the species occurs:

Ozark Highlands

Boston Mountains

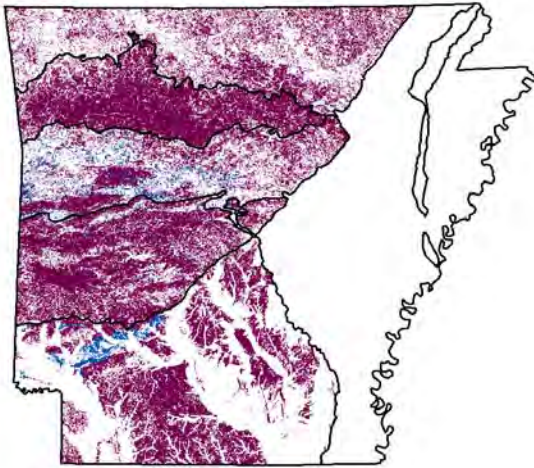
Arkansas Valley

Ouachita Mountains

South Central Plains

Mississippi Alluvial Plain

Mississippi Valley Loess Plain



Habitat Map



Habitats

Weight

Ozark-Ouachita Dry Oak and Pine Woodland	Optimal
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Optimal
Ozark-Ouachita Large Floodplain	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Optimal
Ozark-Ouachita Pine-Oak Forest/Woodland	Optimal
Ozark-Ouachita Prairie and Woodland	Optimal
Ozark-Ouachita Riparian	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable
West Gulf Coastal Plain Pine-Hardwood Forest/Woodland	Optimal
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland	Optimal

Problems Faced

KNOWN PROBLEM: Habitat loss.

Threat: Habitat destruction or conversion
Source: Forestry activities

KNOWN PROBLEM: Reduced habitat quality due to invasive species.

Threat: Altered composition/structure
Source: Exotic species

POTENTIAL PROBLEM: Loss of habitat due to deer browsing.

Threat: Excessive herbivory
Source: Grazing/Browsing

POTENTIAL PROBLEM: Use of pesticides for gypsy moths.

Threat: Toxins/contaminants
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance Category

More data are needed to determine conservation actions.

Medium Data Gap

Monitoring Strategies

Survey grassy areas at woodland edges and city gardens, especially along creeks.

Comments

NatureServe (2015) describes this species as being local and uncommon but not in trouble globally; if it is indeed starting to use Johnson grass (*Sorghum halepense*) as a larval foodplant in addition to its usual foodplant, Indian Woodoats (*Chasmanthium latifolium*), it could become more common. Within Arkansas, Spencer (2006) notes that this skipper is uncommon to common nearly statewide except in the southern Delta. Drs. William Baltosser, Craig Rudolph, and Charles Ely have detected this species in 21 counties (personal communication, 2015) and, when coupled with additional occurrences depicted by Raney (2012), the occurrence of this species totals to 29 Arkansas counties (Baltosser et al. 2015). The former suggest that at present the species does not warrant listing, but Schweitzer et al. (2011) question whether there is sufficient evidence to consider this species secure. Given this, it is recommended that the Bell's Roadside-Skipper should be monitored if habitats are to be altered and be among the species tracked when any Lepidoptera studies within suitable habitat are undertaken.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Amblyscirtes carolina

Carolina Roadside-Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **27** out of 100

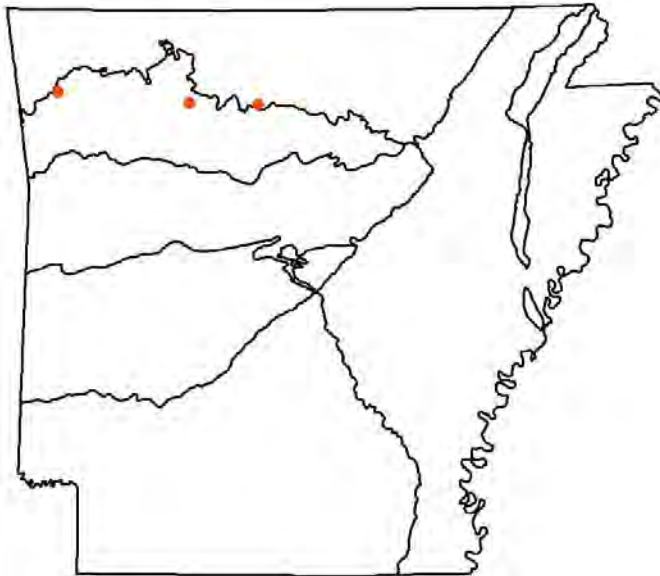


Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

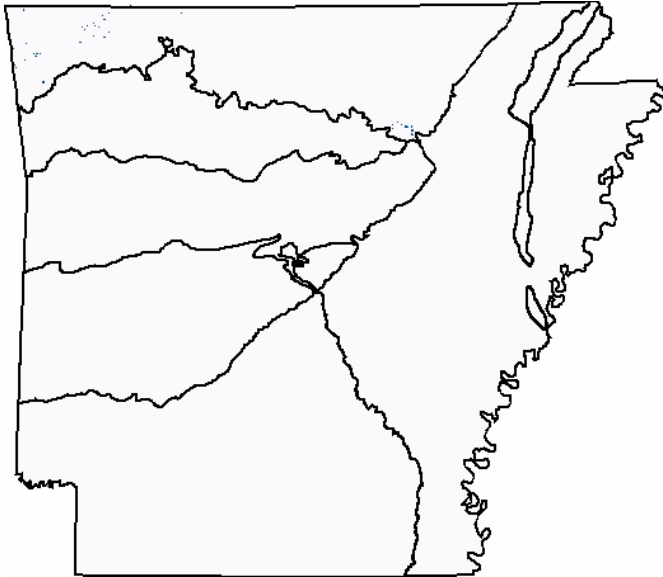
State Rank: S1S3 — Critically imperiled in Arkansas (uncertain rank)

Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Large Floodplain
 Ozark-Ouachita Riparian

Weight

Optimal
 Optimal

Problems Faced

Fire suppression.

Threat: Alteration of natural fire regimes
 Source: Fire suppression

Loss of canebrake habitat.

Threat: Habitat destruction or conversion
 Source: Conversion of riparian forest

Data Gaps/Research Needs

Obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Need a thorough survey of high-quality canebrakes to determine status of this and other cane-dependent species in the state.

Comments

Dependent upon canebrakes. Arkansas populations of this skipper are greatly disjunct from the main range of the species to the east, with records of occurrence in the state from only 4 counties (Baltosser et al. 2015). Occurrences documented by Baltosser lie to the east of the single disjunct population for Arkansas shown by Opler and Malikul (1998). Species occasionally somewhat numerous (locally) in on-going study of skippers in the genus *Amblyscirtes* being conducted by Baltosser (Dr. William Baltosser, personal communication, 2015). This study will provide additional data, but at present there is insufficient information to fully evaluate the status of the species other than to be aware of its presence and limited distribution.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Amblyscirtes linda

Linda's Roadside-Skipper

Class: Insecta

Order: Lepidoptera

Family: Hesperiidae

Priority Score: **38** out of 100



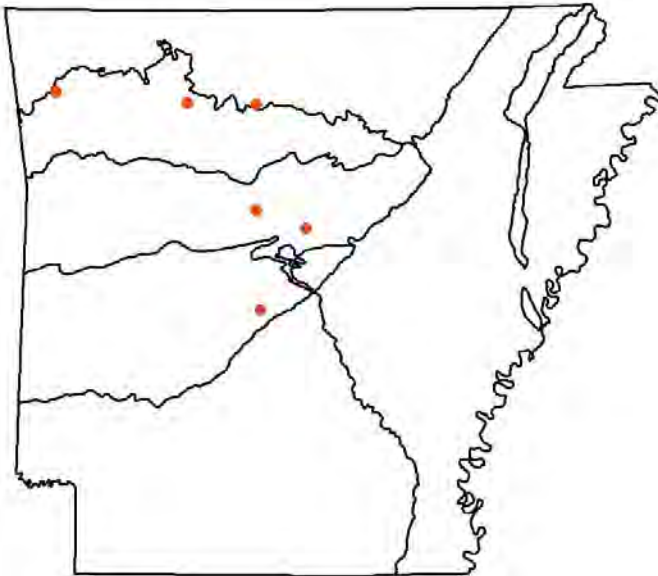
Population Trend: Unknown

Global Rank: G2G3 — Imperiled (uncertain rank)

State Rank: S1S3 — Critically imperiled in Arkansas (uncertain rank)

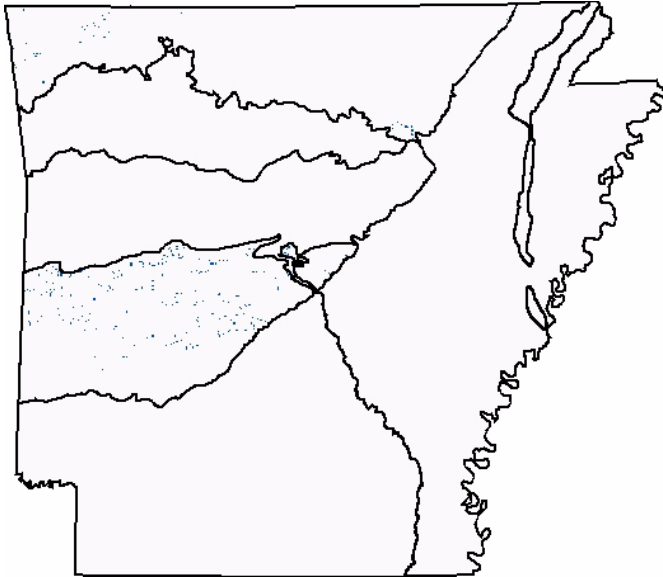
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland

Weight

Optimal

Problems Faced

KNOWN PROBLEM: Loss/conversion of woodland stream habitat.

Threat: Habitat destruction or conversion
Source: Conversion of riparian forest

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Need a thorough survey of the Ozark and Ouachita regions to determine status of this and other rare species in the state.

Comments

Limited range; rare breeding native species that is known to use only spike grass (*Chasmanthium latifolium*) as a larval host plant. Preferred habitat is along woodland streams (Opler and Malikul 1998). Heitzman and Heitzman (1996) list this butterfly as a rare breeding species native to the Ozark region. Species has been found in 10 Arkansas counties (Baltosser et al. 2015); more information needed. An on-going study of skippers in the genus *Amblyscirtes* being conducted by Baltosser (Dr. William Baltosser, personal communication, 2015) will provide additional insight. However, there is currently insufficient information to fully evaluate the status of the species other than to be aware of its presence and limited distribution.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Arianops copelandi

Copeland's Mold Beetle

Class: Insecta

Order: Coleoptera

Family: Pselaphidae

Priority Score: **23** out of 100



Population Trend: Unknown

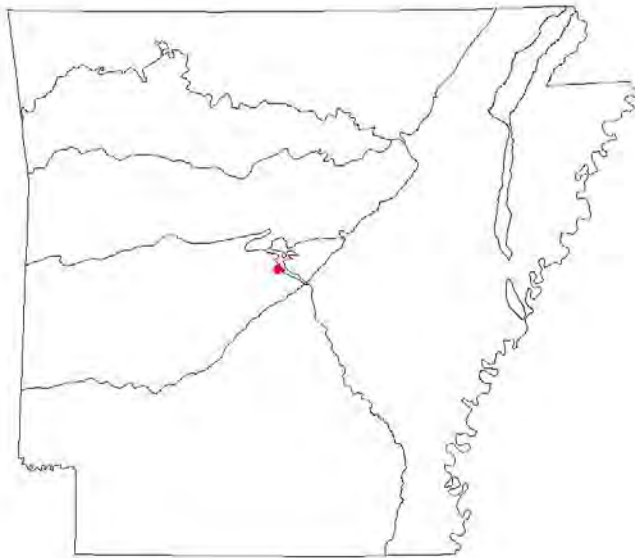
Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas



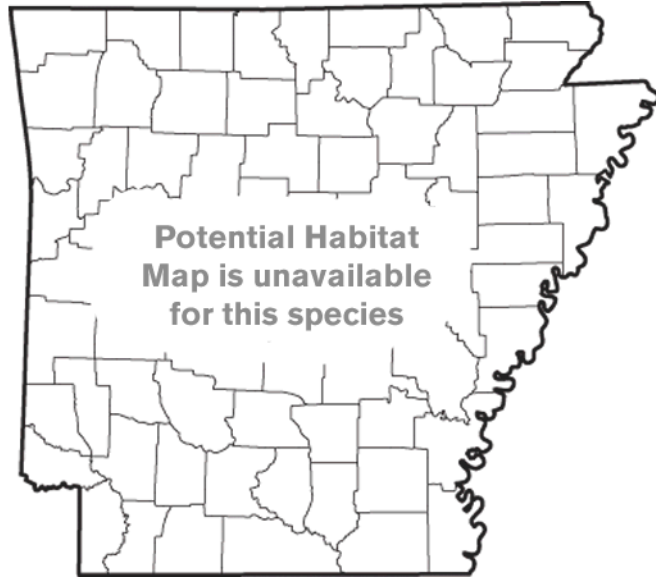
Distribution

Occurrence Records

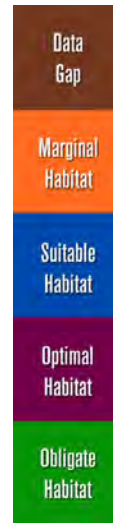


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Mesic Hardwood Forest

Weight

Suitable

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
Source: Forestry activities

Recreational development.

Threat: Habitat disturbance
Source: Recreation

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An endemic beetle known only from the northeastern slope of Pinnacle Mountain in Pulaski County (Carlton and Cox 1990).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Arianops sandersoni

Magazine Mountain Mold Beetle

Class: Insecta

Order: Coleoptera

Family: Pselaphidae

Priority Score: **80** out of 100



Population Trend: Unknown

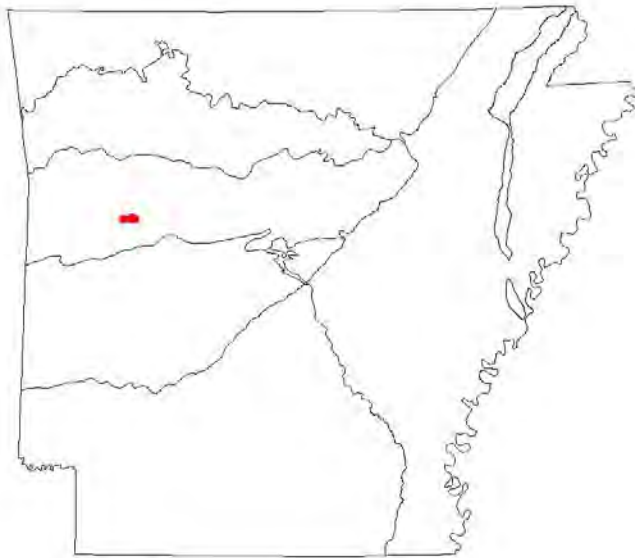
Global Rank: G1? — Critically imperiled (inexact numeric rank)

State Rank: S1? — Critically imperiled in Arkansas (inexact numeric rank)



Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Mesic Hardwood Forest

Weight

Suitable

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
Source: Commercial harvest

Recreational development.

Threat: Habitat disturbance
Source: Recreation

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An endemic beetle known only from Bear Hollow on Magazine Mountain in Logan County (Barr 1974).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Atrytone arogos iowa

Arogos Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **19** out of 100

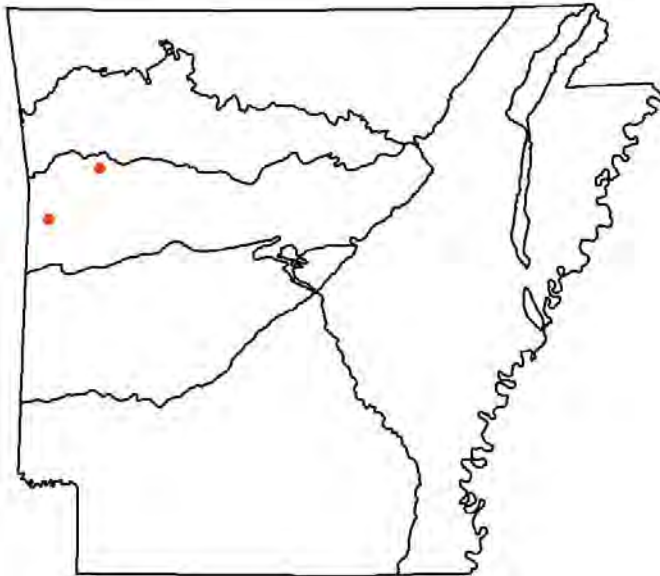


Population Trend: Unknown

Global Rank: G3T3 — Vulnerable (vulnerable subspecies)

State Rank: S1 — Critically imperiled in Arkansas

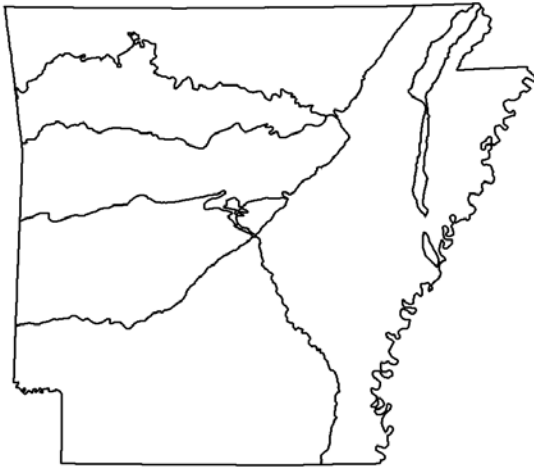
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Prairie and Woodland

Weight

Obligate

Problems Faced

KNOWN PROBLEM: Loss of tallgrass prairie habitat.

Threat: Habitat destruction or conversion
Source: Fire suppression

KNOWN PROBLEM: Loss of tallgrass prairie habitat.

Threat: Habitat destruction or conversion
Source: Agricultural practices

Data Gaps/Research Needs

Determine the effects of prescribed burning on populations.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey tallgrass prairies (especially in Franklin County) for this and other rare species.

Comments

Intensive surveys for this skipper were made annually over a four-year period in Franklin County on three tallgrass prairies administered by the Arkansas Natural Heritage Commission and The Nature Conservancy (Baltosser 2008, 2009, 2010). Within these areas the species appears to be reasonably secure, though local extirpation with subsequent colonization from segments of one or both of the other areas appears common (Dr. William Baltosser, personal communication, 2015). This skipper is an indicator of high-quality, pristine tallgrass prairie habitat and as such, even though local abundance can occasionally be high, the species is in jeopardy due to loss and degradation of habitat throughout its range (see Schweitzer et al. 2011 and NatureServe 2015). The former was evident following controlled burning or haying activities that are periodically required to maintain these habitats. Both activities in the short-term negatively impact the species, but with the provision of temporary local refugia (untreated acreage of approximate equal size in close proximity to management activities), the detrimental impact upon the local population was offset through improved habitat and subsequent recovery (Dr. William Baltosser, personal communication, 2015). Designating this species as a "Species of Special Concern" is well justified given the tremendous loss of habitat throughout its historical range, continued threats to its few remaining habitats (found in only 2 Arkansas counties - Baltosser et al. 2015), and the removal of ecological factors that served to maintain tallgrass prairie habitats (e.g., fire and bison grazing).

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Autochton cellus

Golden-banded Skipper

Class: Insecta

Order: Lepidoptera

Family: Hesperiidae

Priority Score: **21** out of 100



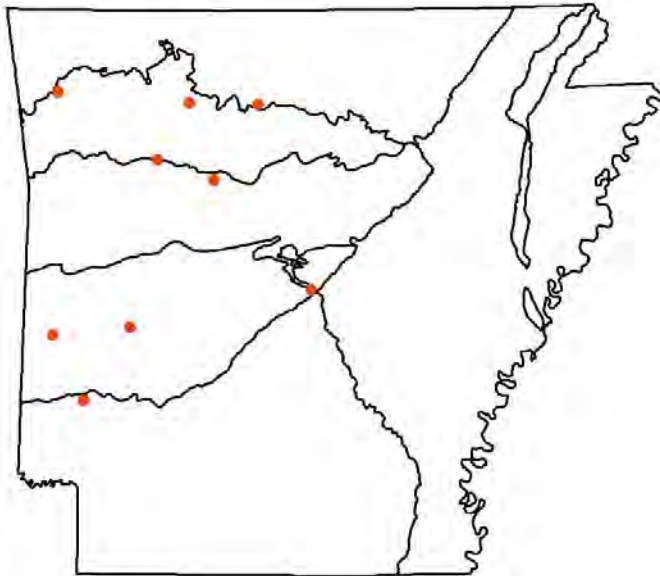
Population Trend: Unknown

Global Rank: G4 — Apparently secure species

State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)

Distribution

Occurrence Records



Ecoregions where the species occurs:

Ozark Highlands

Boston Mountains

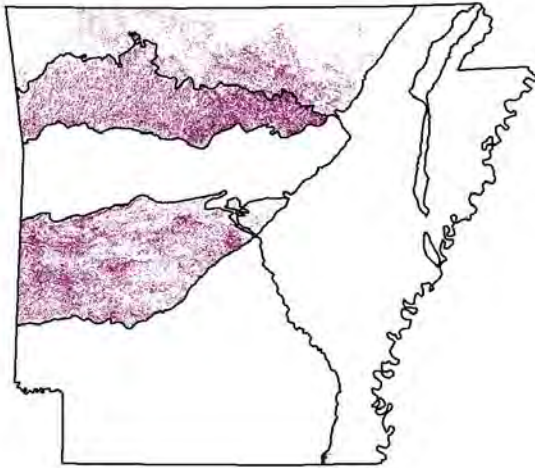
Arkansas Valley

Ouachita Mountains

South Central Plains

Mississippi Alluvial Plain

Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland
 Ozark-Ouachita Pine-Oak Forest/Woodland

Weight

Optimal
 Optimal

Problems Faced

KNOWN PROBLEM: Loss of habitat.

Threat:
 Source:

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey rich woodlands that contain the host plant, Hog Peanut (*Amphicarpaea*).

Comments

Schweitzer et al. (2011) note the disjunct distribution of this skipper, which has both eastern U.S. and southwestern U.S. populations. In Missouri the species is stated to be rare and local and found in only a few eastern and southern Ozark counties (Heitzman and Heitzman 1996). Spencer (2006) characterizes this skipper in Arkansas as being local in its distribution and rare to uncommon statewide, except for the southern Delta. Surveys conducted over multiple years and, in some instances, spanning a period in excess of 10 years, demonstrate the localized distribution and rarity often associated with this species (Drs. William Baltosser, Craig Rudolph, and Charles Ely, personal communication, 2015). Rudolph and Ely have only five records for this skipper and all are from the same locality. They have been aware of the larval foodplant and of the presence of other "look-alike-skipper" (e.g., Hoary Edge), so their failure to detect this skipper on other surveys throughout the region is noteworthy. In contrast, in surveys along the Buffalo National River and vicinity, Baltosser has found the species to be widespread as documented by 35 records of occurrence across three counties. Although documented to occur in 15 Arkansas counties (Baltosser et al. 2015), surveys are still needed to determine baseline information, and conservation measures need to be explored once there is more insight regarding the status and distribution of this species.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Calephelis borealis

Northern Metalmark

Class: Insecta
 Order: Lepidoptera
 Family: Riodinidae

Priority Score: **23** out of 100



Population Trend: Unknown

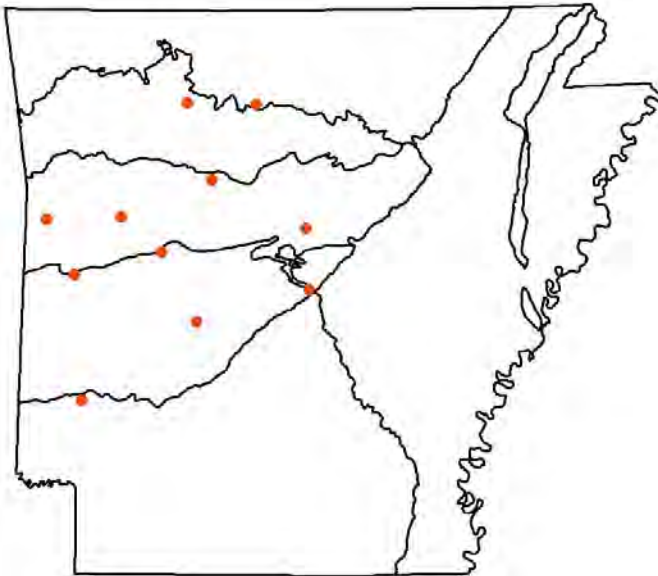
Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S3 — Vulnerable in Arkansas



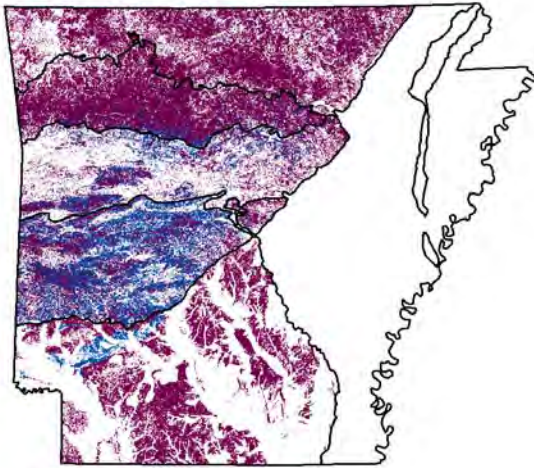
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Interior Highlands Calcareous Glade and Barrens	Optimal
Interior Highlands Dry Acidic Glade and Barrens	Optimal
Ozark-Ouachita Dry Oak and Pine Woodland	Optimal
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Optimal
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable

Weight

Problems Faced

POTENTIAL PROBLEM: Habitat degradation due to deer browsing.

Threat: Excessive herbivory
Source: Grazing/Browsing

POTENTIAL PROBLEM: Habitat degradation due to invasive exotic plant species such as Japanese honeysuckle.

Threat: Altered composition/structure
Source: Exotic species

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey openings, which may be natural outcrops, shale or limestone barrens, glades, or powerline rights-of-way within forested or wooded areas.

Comments

The separation of this species and Swamp Metalmark (*Calephelis muticum*) is not necessarily an easy task. Both are rare in Arkansas and can occur in the same geographic area. Co-occurrence of the two species is especially a problem in Missouri and Arkansas (Heitzman and Heitzman 1996, Schweitzer et al. 2011) and thus habitat, while being an important component of identification (Spencer 2006), cannot be used as the only indicator in identification (Dr. William Baltosser, personal communication, 2015). Records of occurrence exist for 13 Arkansas counties; virtually all metalmarks encountered by Drs. Baltosser, Rudolph, and Ely have proved (even when from wet habitats) to be Northern Metalmarks (personal communication, 2015); more information needed to evaluate status.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Calephelis muticum

Swamp Metalmark

Class: Insecta
 Order: Lepidoptera
 Family: Riodinidae

Priority Score: **34** out of 100



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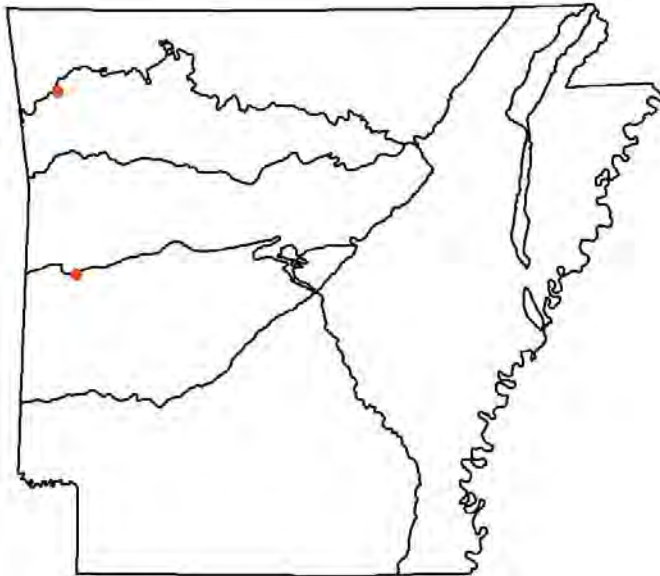
Population Trend: Unknown

Global Rank: G3 — Vulnerable species

State Rank: S1 — Critically imperiled in Arkansas

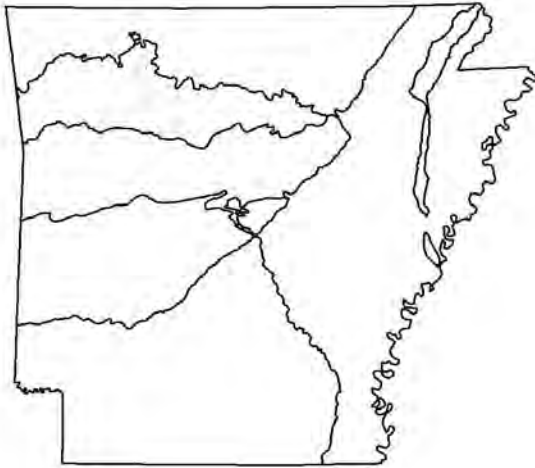
Distribution

Occurrence Records

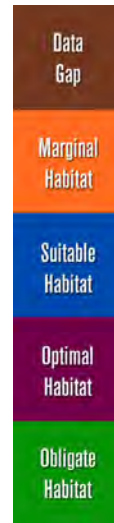


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Herbaceous Wetland

Ozark-Ouachita Forested Seep

Weight

Data Gap

Optimal

Problems Faced

KNOWN PROBLEM: Habitat loss and degradation.

Threat: Habitat destruction or conversion
Source: Conversion of riparian forest

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Need a thorough inventory of high-quality glade complexes in the Ozarks for this and other rare insect species.

Comments

The Swamp Metalmark is associated with wetland habitat (Opler and Malikul 1998). However, the separation of this species and Northern Metalmark (*Calephelis borealis*) is not necessarily an easy task. Both are rare in Arkansas and can occur in the same geographic area. Co-occurrence of the two species is especially a problem in Missouri and Arkansas (Heitzman and Heitzman 1996, Schweitzer et al. 2011) and thus habitat, while being an important component of identification (Spencer 2006), cannot be used as the only indicator in identification (Dr. William Baltosser, personal communication, 2015). Records of occurrence exist for 6 Arkansas counties, but virtually all metalmarks encountered by Drs. Baltosser, Rudolph, and Ely have proved (even when from wet habitats) to be Northern Metalmarks; more information needed to evaluate status. This species is thought to be associated with deep muck fens such as occur near Bull Shoals Lake. Fen habitats herein are incorporated into the Ozark-Ouachita Forested Seep habitat type.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Callophrys irus hadros

Texas Frosted Elfin

Class: Insecta
 Order: Lepidoptera
 Family: Lycaenidae

Priority Score: **42** out of 100



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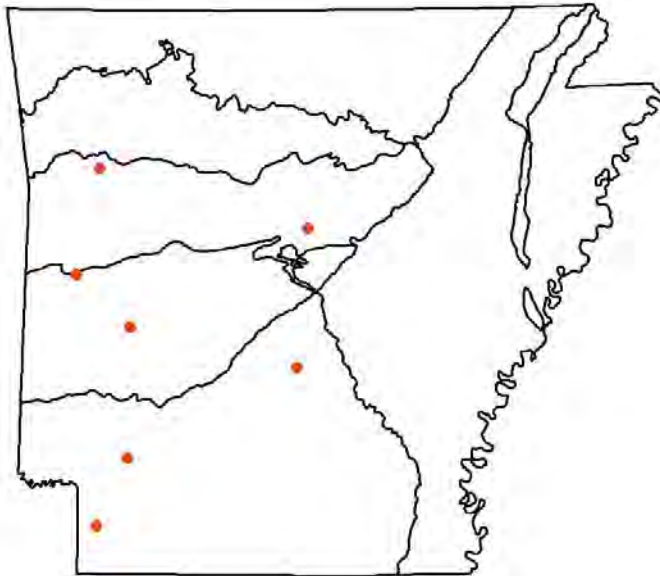
Population Trend: Unknown

Global Rank: G3T2T3 — Vulnerable (imperiled or vulnerable subspecies)

State Rank: S1 — Critically imperiled in Arkansas

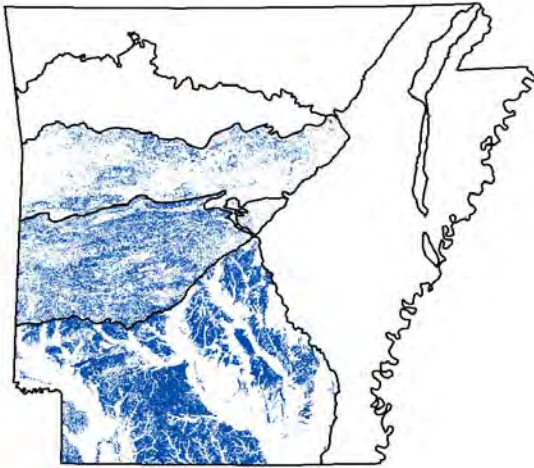
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
Ozark-Ouachita Prairie and Woodland	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland	Suitable

Weight

Problems Faced

Fire suppression.	Threat: Alteration of natural fire regimes Source: Fire suppression
Habitat degradation.	Threat: Habitat destruction or conversion Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Intensive surveys should be conducted to determine the distribution and general abundance of the Texas Frosted Elfin in Arkansas.

Comments

It has been suggested that the Texas subspecies (*hadros*), a rare and localized butterfly, is perhaps a full species (Shepherd 2005). In Arkansas, habitat includes areas that are sandy, rocky, scrub, burned, and also woodland edges (Spencer 2006). The species has occurred in 7 Arkansas counties (Baltosser et al. 2015). Recently it has been found in tallgrass prairie habitats in the Arkansas Valley in early spring, subsequent to fall and early winter habitat manipulations the previous year (Baltosser, 2010); more information needed to evaluate status.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Catocala lincolnana

Lincoln Underwing

Class: Insecta
 Order: Lepidoptera
 Family: Noctuidae

Priority Score: **23** out of 100



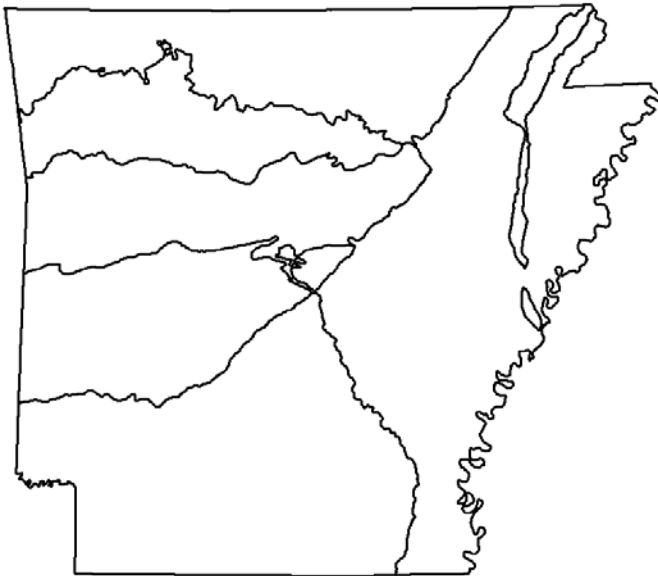
Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S3 — Vulnerable in Arkansas



Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

- Lower Mississippi River Bottomland Depression
- West Gulf Coastal Plain Large River Floodplain Forest

Weight

- Data Gap
- Data Gap

Problems Faced

KNOWN PROBLEM: Habitat destruction.

Threat: Habitat destruction or conversion
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey forested southern hardwood swamps or mixed cypress swamps for this and other species. Known sites are in association with rivers, and larvae feed on certain species of subcanopy hawthorns.

Comments

No locality data available in Arkansas. NatureServe describes the species as occurring in cypress-tupelo swamp habitats. Several underwing specimens that have been taken from on-going moth surveys along the Buffalo National River (Drs. William Baltosser and Charles Ely, personal communication, 2015) are still being examined, some by outside experts. Over 20 species of *Catocala* have been identified to date from these surveys and no specimens of the Lincoln Underwing have been detected. Continuation of on-going and related studies is required if information on the status and distribution of this species is to be resolved.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Celastrina neglectamajor

Appalachian Azure

Class: Insecta
 Order: Lepidoptera
 Family: Lycaenidae

Priority Score: **27** out of 100

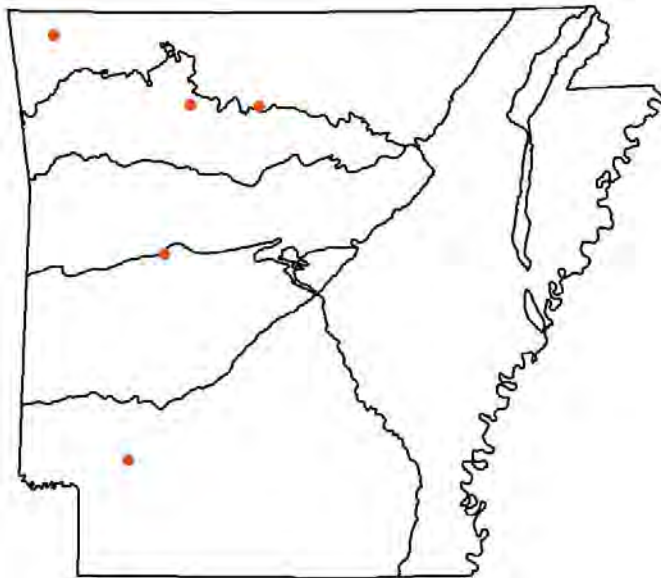


Population Trend: Unknown

Global Rank: G4 — Apparently secure species

State Rank: S1 — Critically imperiled in Arkansas

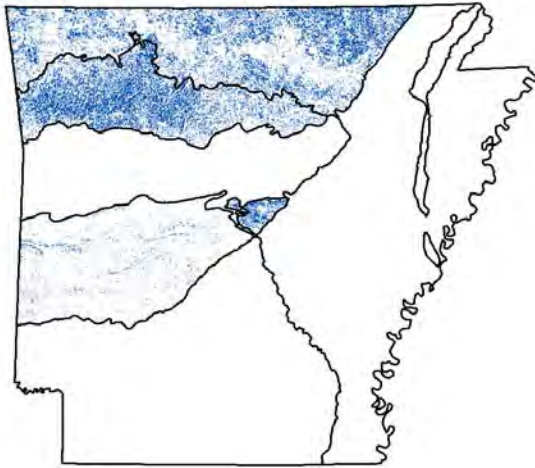
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable

Weight

Problems Faced

KNOWN PROBLEM: The foodplant (*Actaea racemosa*) is harvested legally and illegally for alleged medicinal value.

Threat: Habitat destruction
Source: Excessive non-commercial harvest or collection

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey a variety of forest types in northern Arkansas to assess the current status of this species in the state.

Comments

Arkansas populations of this butterfly are greatly disjunct from the main range of the species to the east, but not without precedent when compared with the occurrence of the species in Missouri as depicted by Opler and Malikul (1998). Species present in surveys of Lepidoptera along the Buffalo National River and vicinity (at least two specimens), with perhaps several others (tentative identifications ... species can be confused with Spring Azure and Summer Azure, Dr. William Baltosser, personal communication, 2015). One specimen record is available from Yell County (Drs. Craig Rudolph and Charles Ely, personal communication, 2015). A record from Hempstead County seems out of place but has been included in the total of 5 counties from which records of this species have been reported (Baltosser et al. 2015). Surveys are needed to determine baseline information, and conservation measures should be explored once there is more insight regarding the status and distribution of this species. Molecular DNA analysis is likely to be required at some point.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Celastrina nigra

Dusky Azure

Class: Insecta
 Order: Lepidoptera
 Family: Lycaenidae

Priority Score: **23** out of 100



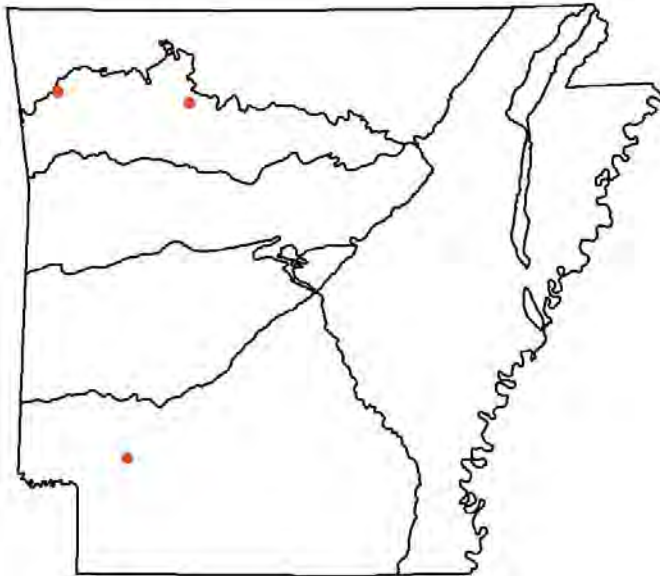
Population Trend: Unknown

Global Rank: G4 — Apparently secure species

State Rank: S2 — Imperiled in Arkansas

Distribution

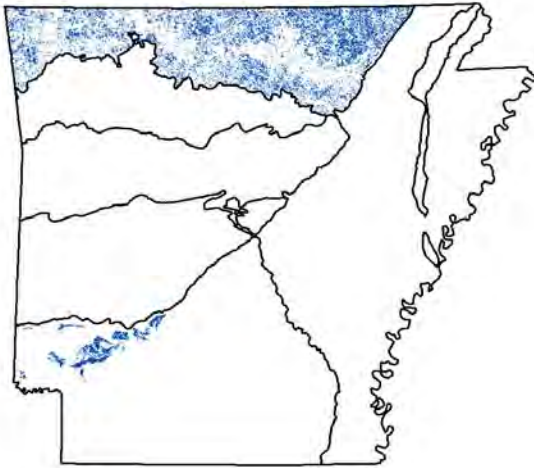
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable

Weight

Problems Faced

POTENTIAL PROBLEM: Loss of habitat due to invasion of the non-native garlic mustard (*Alliaria officinalis*).

Threat: Altered composition/structure
Source: Exotic species

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey moist, shaded deciduous forests for this and other rare species.

Comments

The species is stated to be extremely local in Missouri and known only from a few counties in the eastern Ozarks (Heitzman and Heitzman 1996). The same publication further states that this is one of the rarest butterflies in the eastern United States. The occurrence of this insect in Arkansas is very much disjunct from the main range of the species to the east; it is recorded from only 3 Arkansas counties (Baltosser et al. 2015). Spencer (2006) notes that the species is local and rare, being recorded at the time of publication from only Washington and Hempstead counties. However, multiple individuals of this species were present in northern Arkansas (Newton Co.) in 2009, but it was not detected during the following two years despite extensive searches (Dr. William Baltosser, personal communication, 2015). Surveys to determine baseline information needed, and as more insight regarding the status and distribution of this species emerges (relict population?), then appropriate conservation and management strategies should be implemented.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Chlosyne gorgone

Gorgone Checkerspot

Class: Insecta
 Order: Lepidoptera
 Family: Nymphalidae

Priority Score: **15** out of 100



Population Trend: Unknown

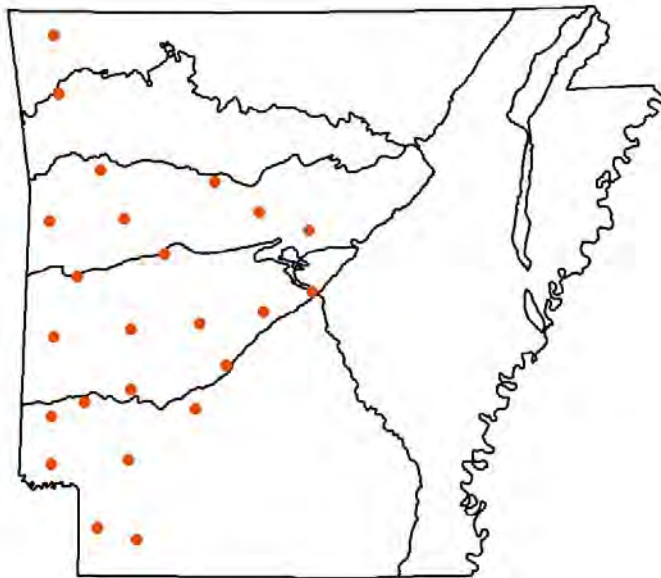
Global Rank: G5 — Secure

State Rank: S3 — Vulnerable in Arkansas



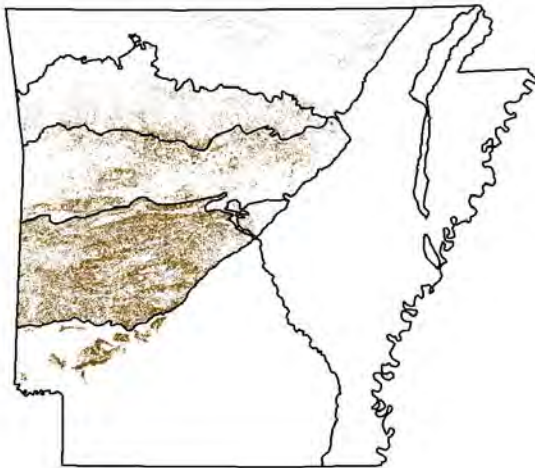
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Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Weight

Ozark-Ouachita Pine-Bluestem Woodland	Data Gap
Ozark-Ouachita Prairie and Woodland	Data Gap
West Gulf Coastal Plain Calcareous Prairie and Woodland	Data Gap

Comments

This species is listed as one of concern in the publication, Rare, Declining, and Poorly Known Butterflies and Moths (Lepidoptera) of Forests and Woodlands in the Eastern United States (Schweitzer et al. 2011). Although of concern in some regions of the U.S., there are numerous occurrences for the species in Arkansas; records from 31 Arkansas counties (Baltosser et al. 2015). For example, Dr. William Baltosser has records of occurrence for the tallgrass prairies and blackland woodland prairies of Arkansas. Drs. Craig Rudolph and Charles Ely have found it in 13 counties and have records for the species throughout the Ouachita Mountain region. Records depicted by Raney (2012) show a similar pattern. Spencer (2006) characterizes its occurrence as local and rare but also notes that the species has several broods. Based on these records of occurrence, it is unlikely that this species is in need of listing in Arkansas at this time. However, given that it is of concern in other segments of its range, it should be inventoried whenever Lepidoptera surveys are conducted and these occurrences reported to appropriate land management agencies to help insure that populations are not in decline.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Cicindela cursitans

Ant-like Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

Priority Score: **21** out of 100



Population Trend: Unknown

Global Rank: G4 — Apparently secure species

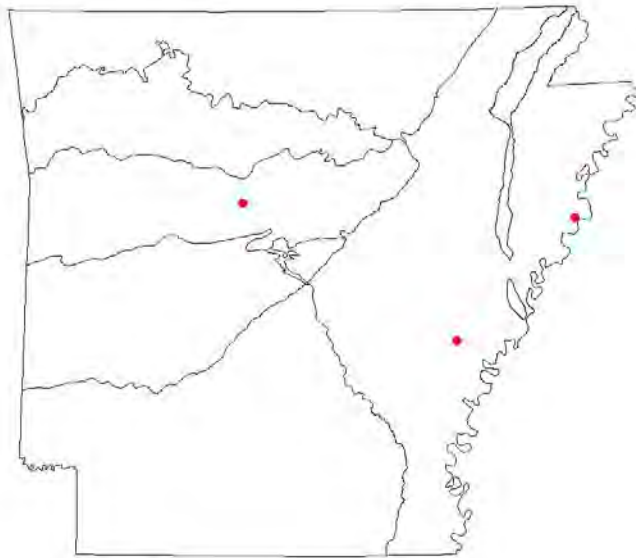
State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



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Distribution

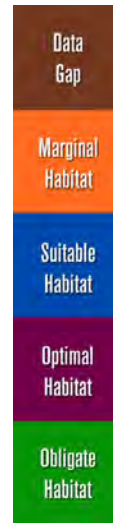
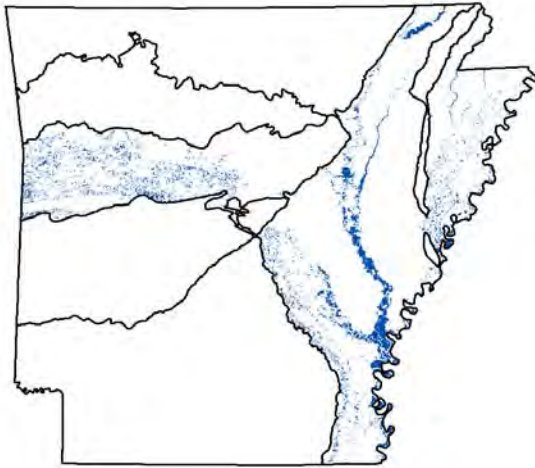
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Large Floodplain

Weight

Suitable

Problems Faced

Loss of riverbank/sand bar habitat.

Threat: Habitat destruction or conversion
Source: Dam

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

A species dependent upon open, sandy habitats such as river sandbars (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela duodecimguttata

Twelve-spotted Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

Priority Score: **13** out of 100



Population Trend: Unknown

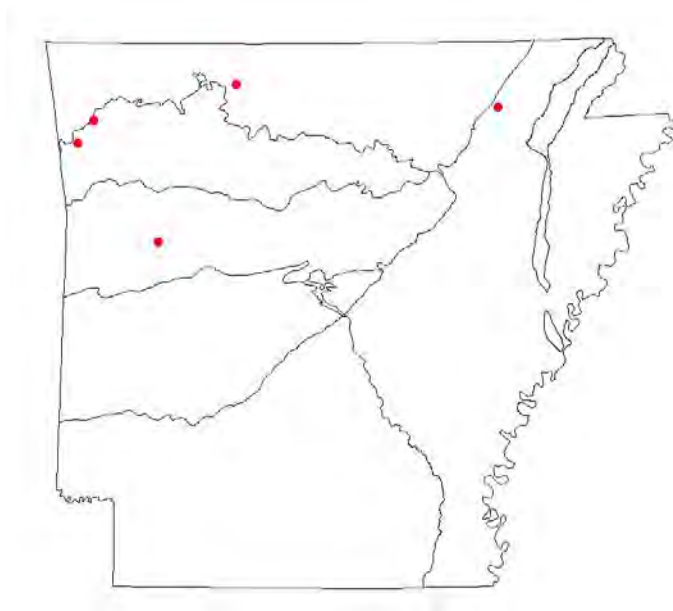
Global Rank: G5 — Secure

State Rank: S3S4 — Vulnerable species in Arkansas (uncertain rank)



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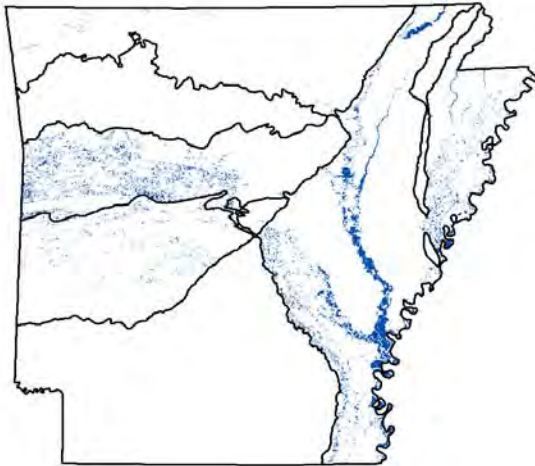
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Large Floodplain

Weight

Suitable

Problems Faced

Loss of riverbank/sand bar habitat.

Threat: Habitat destruction or conversion
Source: Dam

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

A species dependent upon open, sandy habitats such as river sandbars (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela formosa pigmentosignata

Big Sand Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

Priority Score: **17** out of 100



Population Trend: Unknown

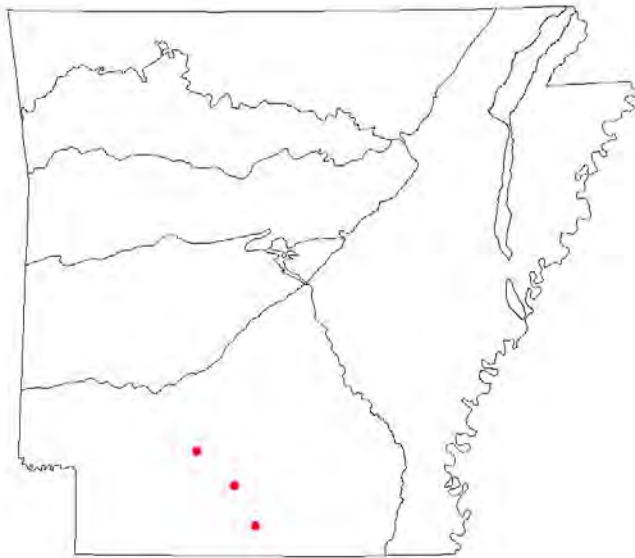
Global Rank: G5T5 — Secure (secure subspecies)

State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



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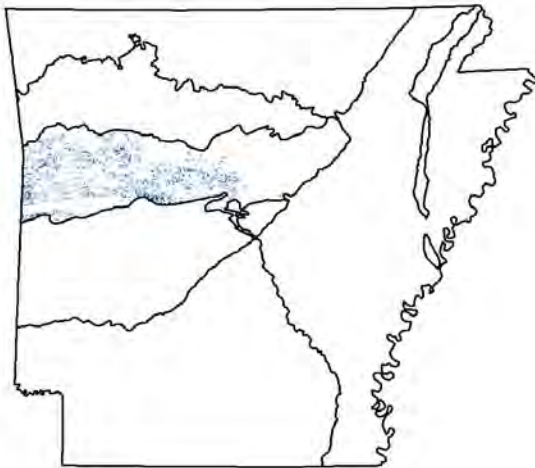
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Large Floodplain

Weight

Suitable

Problems Faced

Loss of riverbank/sand bar habitat.

Threat: Habitat destruction or conversion
Source: Dam

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

A species dependent upon open, sandy habitats such as river sandbars (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela hirticollis

Beach-dune Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

Priority Score: **17** out of 100



Population Trend: Unknown

Global Rank: G5 — Secure

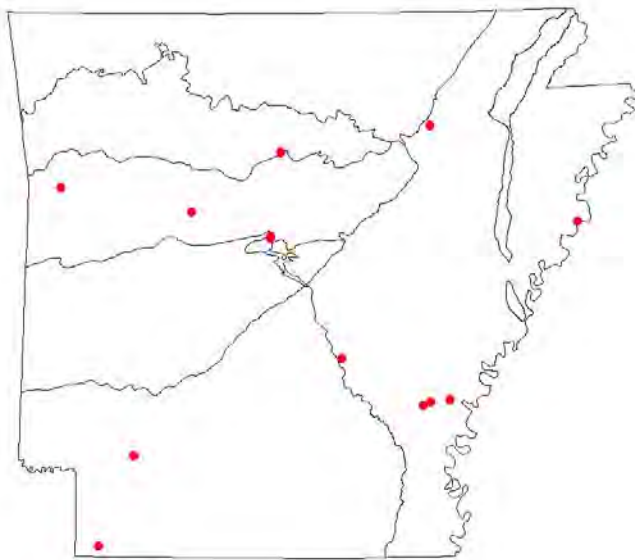
State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



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Distribution

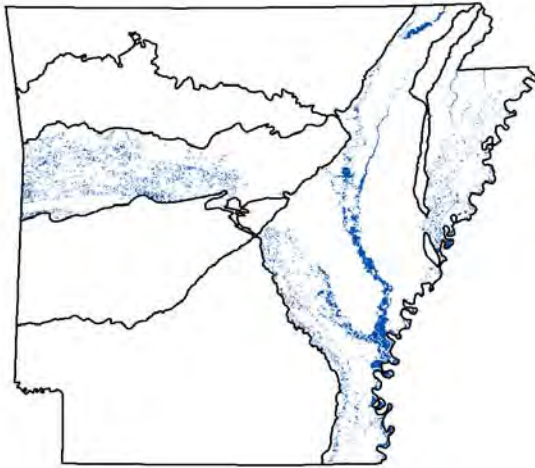
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Large Floodplain

Weight

Suitable

Problems Faced

Loss of riverbank/sand bar habitat.

Threat: Habitat destruction or conversion
Source: Dam

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain habitat for unknown populations.

Comments

A species dependent upon open, sandy habitats such as river sandbars (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela lepida

Tiger Beetle

Class: Insecta

Order: Coleoptera

Family: Cicindelidae

Priority Score: **25** out of 100



Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

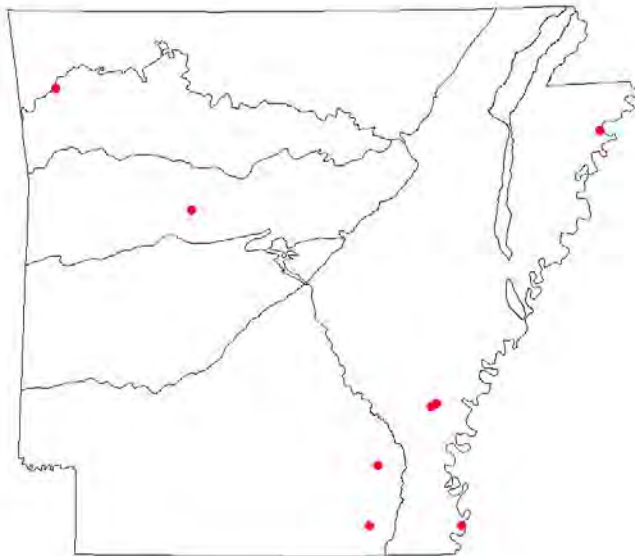
State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



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Distribution

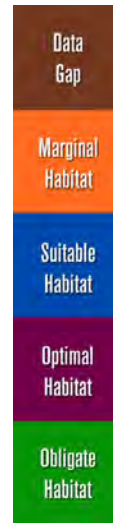
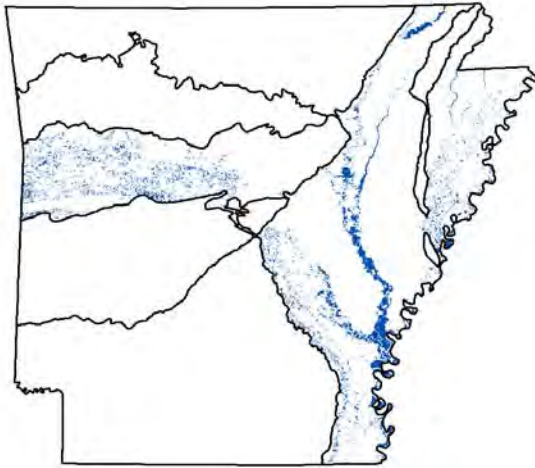
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Large Floodplain

Weight

Suitable

Problems Faced

Habitat degradation.

Threat: Habitat disturbance
Source: Recreation

Loss of sandbar habitat.

Threat: Habitat destruction or conversion
Source: Dam

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

A species highly dependent upon open, sandy areas such as sandbars and blowouts (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela macra

Sandy Stream Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

Priority Score: **17** out of 100



Population Trend: Unknown

Global Rank: G5 — Secure

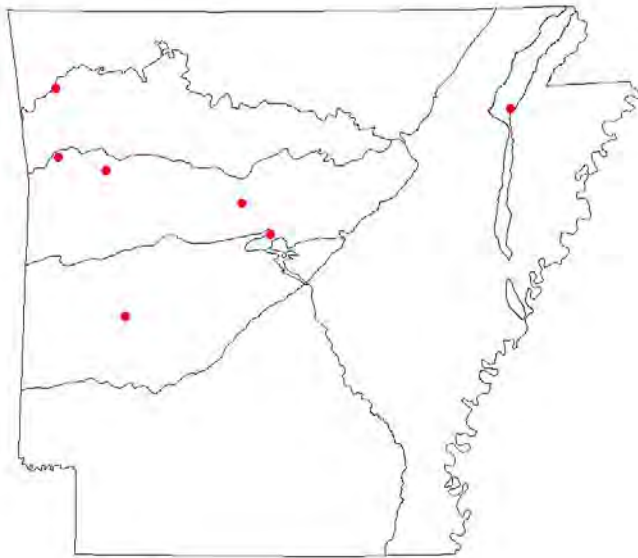
State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



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Distribution

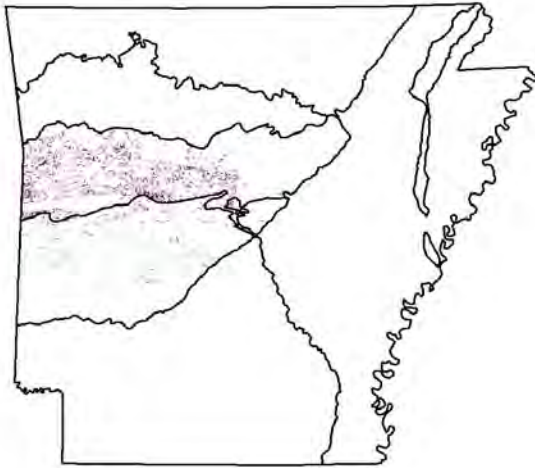
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Large Floodplain

Weight

Optimal

Problems Faced

Loss of riverbank/sand bar habitat.

Threat: Habitat destruction or conversion
Source: Dam

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

A species dependent upon open, sandy habitats such as river sandbars (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela obsoleta

Scrubland Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

Priority Score: **21** out of 100



Population Trend: Unknown

Global Rank: G5 — Secure

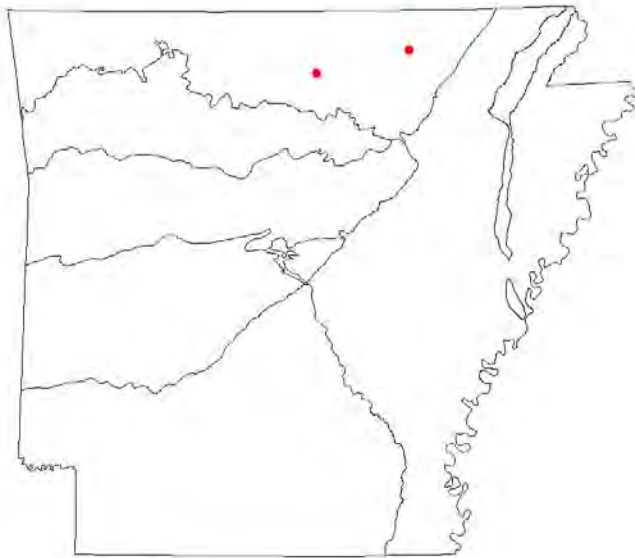
State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)



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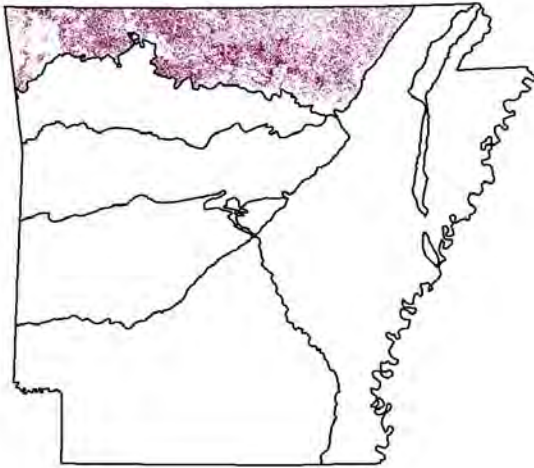
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Interior Highlands Calcareous Glade and Barrens

Weight

Optimal

Problems Faced

Development.

Threat: Habitat destruction or conversion
Source: Urban development

Fire suppression within glade habitats.

Threat: Alteration of natural fire regimes
Source: Fire suppression

Overgrazing.

Threat: Habitat disturbance
Source: Confined animal operations

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

The Arkansas populations of this species are isolated and greatly disjunct from the species' main range to the west. In Arkansas, it is only known from a very small number of glades/barrens near Calico Rock (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela purpurea

Cow Path Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

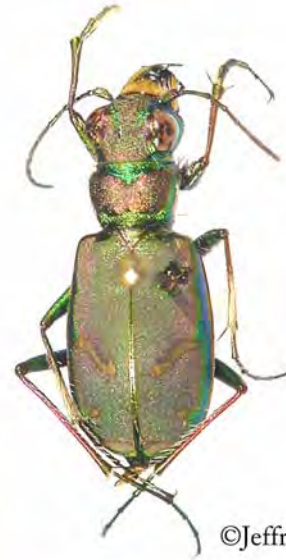
Priority Score: **15** out of 100



Population Trend: Unknown

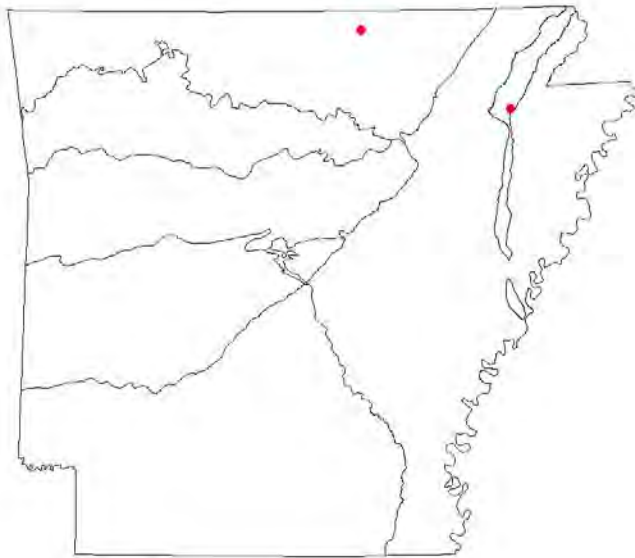
Global Rank: G5 — Secure

State Rank: S3 — Vulnerable in Arkansas



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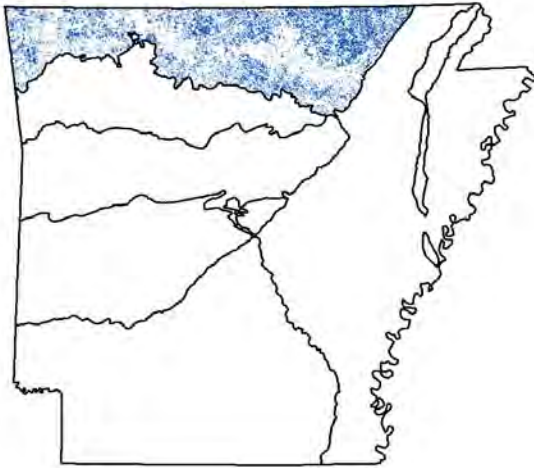
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Dry-Mesic Oak Forest

Weight

Suitable

Problems Faced

Degradation of dry upland habitats.

Threat: Alteration of natural fire regimes
Source: Fire suppression

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

An upland species dependent upon open woodlands and grassy areas (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cicindela unipunctata

Woodland Tiger Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cicindelidae

Priority Score: **21** out of 100



Population Trend: Unknown

Global Rank: G4G5 — Apparently secure (uncertain rank)

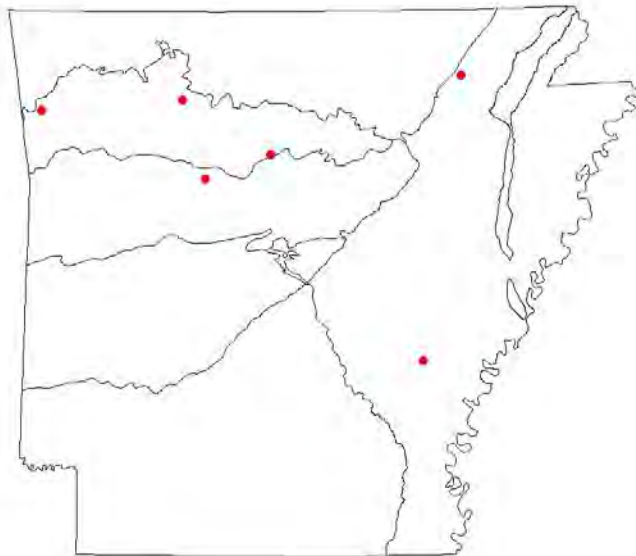
State Rank: S2 — Imperiled in Arkansas



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Distribution

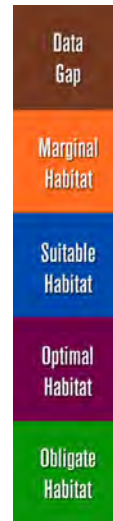
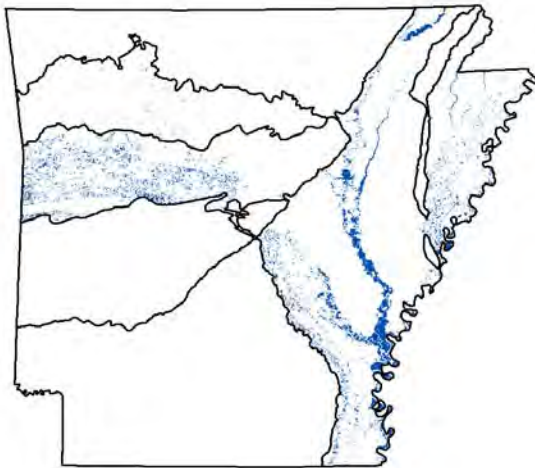
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Lower Mississippi River High Bottomland Forest	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable

Weight

Problems Faced

This species prefers relatively mature forests. clear-cutting or other timber management practices that greatly open a stand could negatively impact populations of this species.

Threat: Habitat destruction or conversion
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas of known occurrence to verify persistence and examine areas that contain suitable habitat for unknown populations.

Comments

A beetle that is thought to be dependent upon mature forest habitats (Graves and Pearson 1979).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Cogia outis

Outis Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **23** out of 100



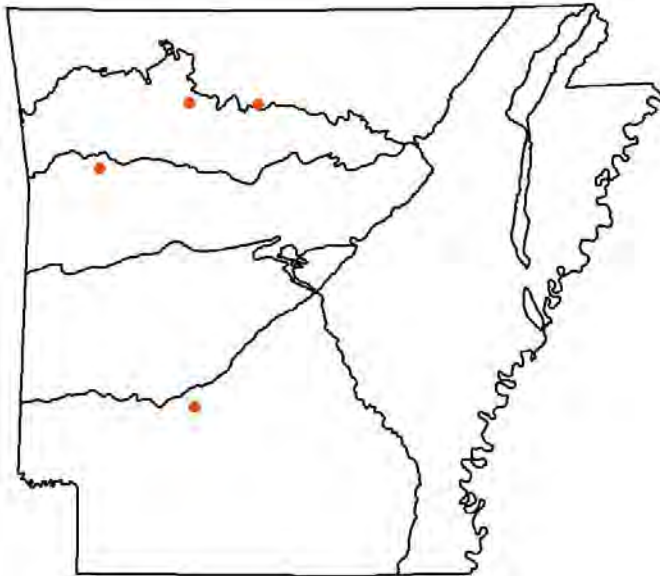
Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S3 — Vulnerable in Arkansas

Distribution

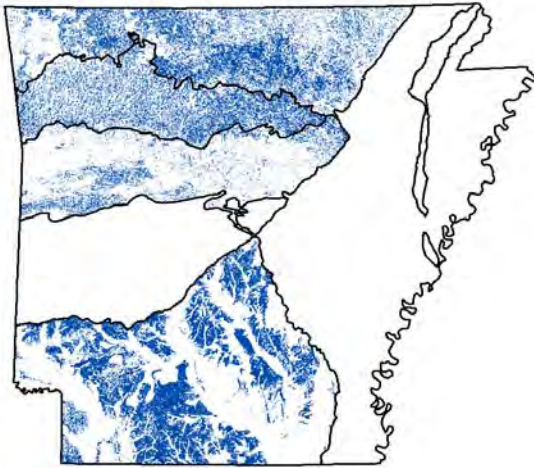
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Interior Highlands Calcareous Glade and Barrens	Suitable
Interior Highlands Dry Acidic Glade and Barrens	Suitable
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable

Weight

Problems Faced

POTENTIAL PROBLEM: Limited range.

Threat:
Source:

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys should be conducted in appropriate habitat to locate additional populations of this species.

Comments

NatureServe (2015) describes the species as having a limited range and, perhaps being inadequately protected, with threats needing evaluation. Scott (1986) shows the northern segment of the range of this species as extending from extreme southern Missouri and adjacent Arkansas through part of Oklahoma and much of central Texas. Information provided by Heitzman and Heitzman (1996) is relevant in that the species is characterized as a breeding resident in the extreme southwestern corner of Missouri and that adults are found in close association with the larval food plant. In surveys along the Buffalo National River and vicinity the species has been detected in low numbers on multiple occasions in at least three locations (Dr. William Baltosser, personal communication, 2015). In most instances, records obtained by Baltosser (including a few much farther south) have been in association with the larval food plant (prairie acacia – Heitzman and Heitzman 1996) and mirror occurrences of this plant (*Acaciella angustissima*) as depicted by Gentry et al. (2013). Spencer (2006) characterizes the species within Arkansas as an occasional stray. Baltosser considers records along the Buffalo National River and vicinity to represent resident, breeding populations, while the few records to the south are perhaps stray animals. More information is needed to better gauge the current status and distribution of this species in Arkansas, which includes records from 6 Arkansas counties (Baltosser et al. 2015).

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Cordulegaster talaria

Ouachita Spiketail

Class: Insecta

Order: Odonata

Family: Cordulegastridae

Priority Score: **65** out of 100



Population Trend: Unknown

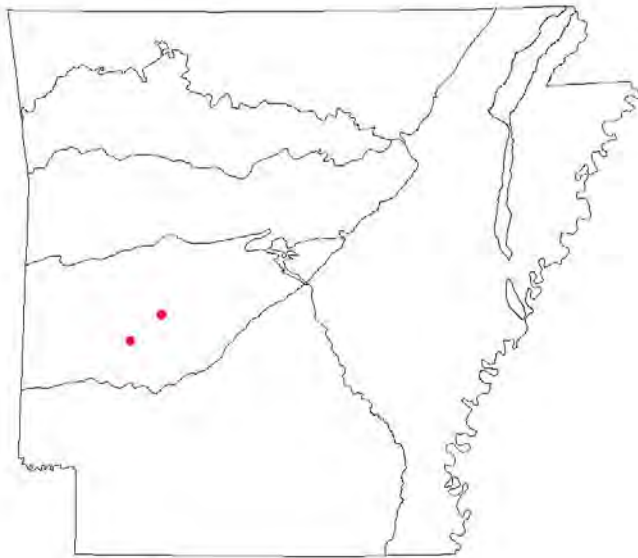
Global Rank: G1G2 — Critically imperiled (uncertain rank)

State Rank: S1 — Critically imperiled in Arkansas



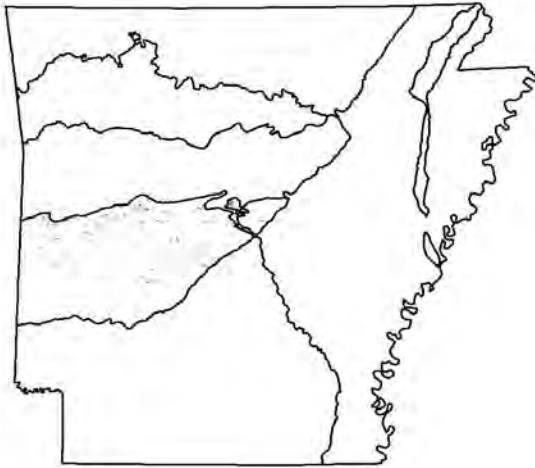
Distribution

Occurrence Records

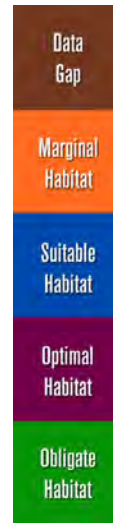


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Forested Seep	Optimal
Ozark-Ouachita Large Floodplain	Optimal
Ozark-Ouachita Riparian	Suitable

Weight

Problems Faced

KNOWN PROBLEM: Destruction of habitat due to cattle grazing.

Threat: Habitat destruction or conversion
Source: Grazing/Browsing

POTENTIAL PROBLEM: Destruction of habitat due to off-road vehicle use.

Threat: Habitat destruction or conversion
Source: Recreation

POTENTIAL PROBLEM: Loss of seep habitat due to conversion.

Threat: Habitat destruction or conversion
Source: Forestry activities

Data Gaps/Research Needs

Determine specific habitat requirements.

Surveys to locate other potential populations are needed.

The status of known populations should be assessed.

Conservation Actions

Protect seep and riverine habitats.

Importance Category

High

Habitat Protection

Monitoring Strategies

Monitor known populations every 3 years.

Comments

This species is endemic to a small area within the Ouachita Mountains. This rare dragonfly appears to be strongly associated with seep/riverine habitats (Robison and others 2008).

Taxa Association Team and Peer Reviewers

Xerces Society Ms. Michele Blackburn, Dr. John Abbott, Mr. Scott Black, Dr. Celeste Searles Mazzacano and Mr. Dennis Paulson

Danaus plexippus

Monarch

Class: Insecta
 Order: Lepidoptera
 Family: Nymphalidae

Priority Score: **15** out of 100

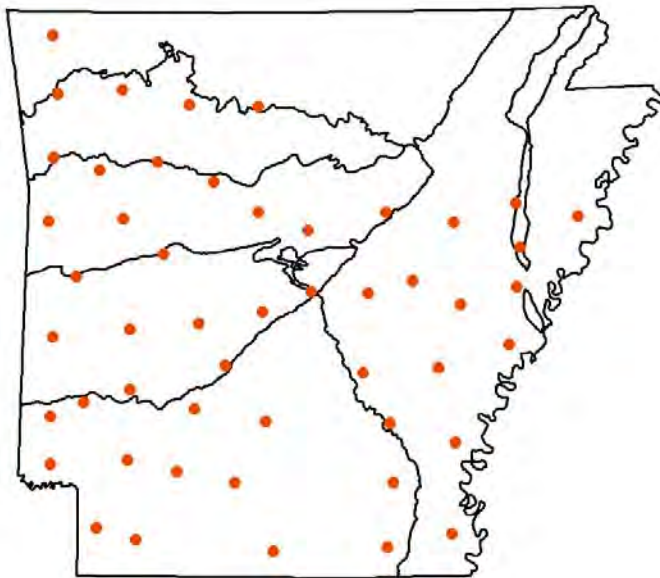


Population Trend: Unknown

Global Rank: G4 — Apparently secure species

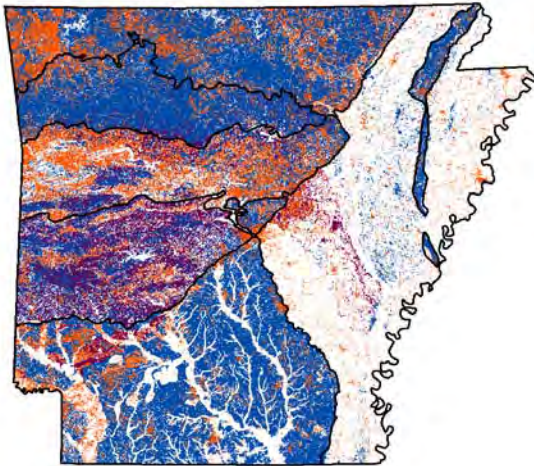
State Rank: S4 — Apparently secure in Arkansas

Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Weight

Crowley's Ridge Loess Slope Forest	Suitable
Interior Highlands Calcareous Glade and Barrens	Suitable
Interior Highlands Dry Acidic Glade and Barrens	Suitable
Lower Mississippi Alluvial Plain Grand Prairie	Optimal
Lower Mississippi Flatwoods Woodland and Forest	Suitable
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Optimal
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Ozark-Ouachita Prairie and Woodland	Optimal
Pasture Land	Marginal
Urban/Suburban	Marginal
West Gulf Coastal Plain Calcareous Prairie and Woodland	Optimal
West Gulf Coastal Plain Pine-Hardwood Flatwoods	Suitable
West Gulf Coastal Plain Pine-Hardwood Forest/Woodland	Suitable

Danaus plexippus
Monarch

Problems Faced

KNOWN PROBLEM: Loss of habitat.

Threat: Habitat destruction or conversion
Source: Urban development

KNOWN PROBLEM: Loss of habitat.

Threat: Habitat destruction or conversion
Source: Agricultural practices

KNOWN PROBLEM: Loss of habitat.

Threat: Habitat destruction or conversion
Source: Exotic species

KNOWN PROBLEM: Loss of habitat.

Threat: Habitat destruction or conversion
Source: Fire suppression

Data Gaps/Research Needs

No data gaps are identified.

Conservation Actions

Importance Category

Restore habitats to provide nectar-producing flowering plants and host plants (milkweeds).

High

Habitat Restoration/Improvement

Monitoring Strategies

Survey and monitor habitats containing milkweed (*Asclepias*) throughout the range of this species over multi-year periods. Monitor habitats in which natural processes have been restored to gauge the impact of such management on improving habitat quality, particularly in regard to important plant species upon which monarchs depend.

Comments

This species has always been of interest owing to its coloration, large size, migratory behavior, and its rather ubiquitous distribution. Given real and perceived declines in various portions of its range, interest in this species has never been greater. Given existing data, the status of this species in Arkansas is probably not as grave as the much-publicized concerns might seem to indicate (documented in at least 69 of 75 Arkansas counties; Baltosser et al. 2015). However, data sets are incomplete and somewhat dated so designating the Monarch as a Species of Greatest Conservation Need is prudent and should be done to improve our understanding of the current and perhaps changing status of this species. Habitats listed here are those that would most likely support plant species utilized by Monarchs.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Dannella provonshai

Mayfly

Class: Insecta

Order: Ephemeroptera

Family: Ephemerellidae

Priority Score: **31** out of 100



Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S1? — Critically imperiled in Arkansas (inexact numeric rank)



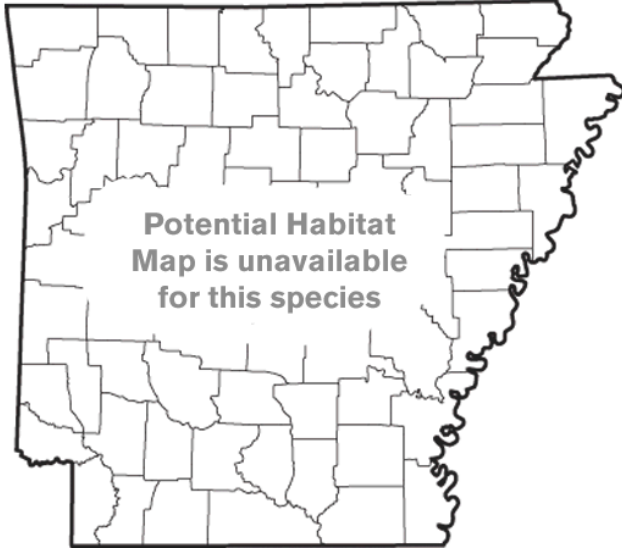
Distribution

Element Occurrence Records

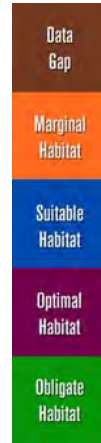


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Riffle: - Small Suitable

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions	Importance	Category
More data are needed to determine conservation actions.	Medium	Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats

Comments

This mayfly is an Arkansas endemic known only from a single locality along the Mulberry River in Johnson County (McCafferty 1977).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Derops divalis

Beetle

Class: Insecta

Order: Coleoptera

Family: Staphylinidae

Priority Score: **23** out of 100



Population Trend: Unknown

Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas



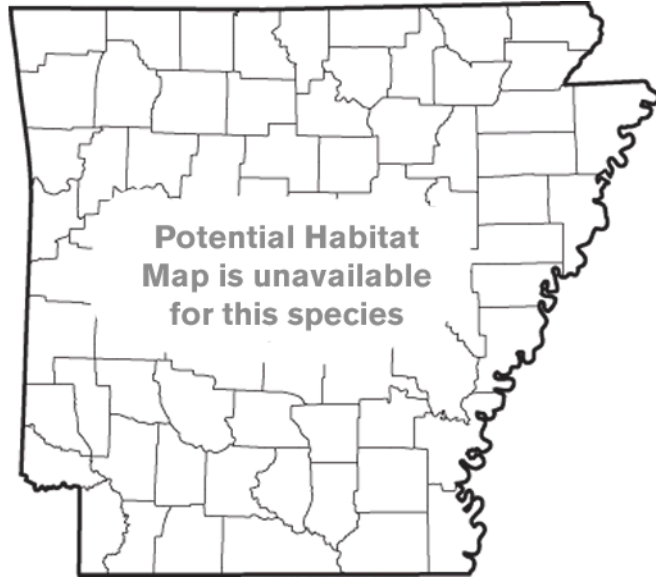
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Dry-Mesic Oak Forest	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable
Ozark-Ouachita Pine-Oak Forest	Suitable

Weight

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

A species partially dependent upon caves, this beetle is often found in very deep litter in rock cracks (Smetama 1983).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Dryobius sexnotatus

Six-banded Longhorn Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cerambycidae

Priority Score: **19** out of 100



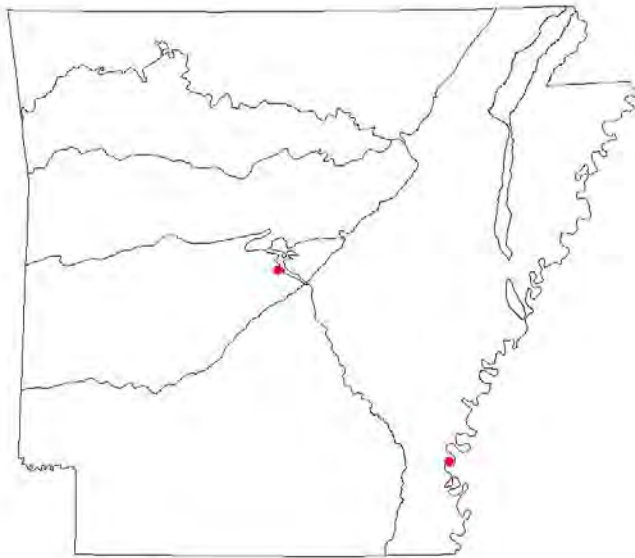
©Jeffrey K. Barnes

Population Trend: Unknown

Global Rank: GNR — Not yet ranked

State Rank: S2 — Imperiled in Arkansas

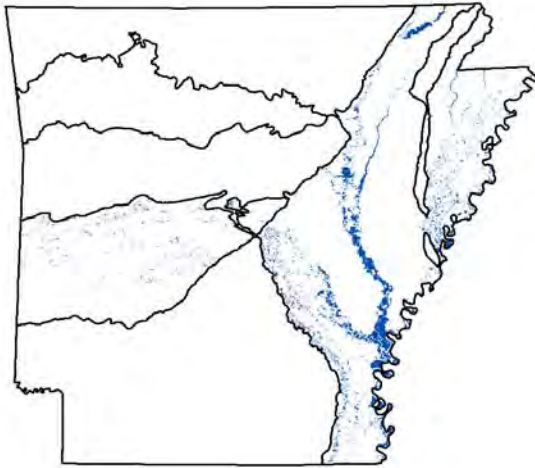
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Lower Mississippi River High Bottomland Forest	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable

Weight

Problems Faced

Forestry practices that reduce number of large, dead trees.

Threat: Habitat destruction or conversion
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey forest stands to locate additional populations of this species.

Comments

A relatively rare longhorned beetle that is thought to be dependent upon very large dead elms and maples as larval hosts (Perry and others 1974).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Erynnis martialis

Mottled Duskywing

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **29** out of 100



Population Trend: Unknown

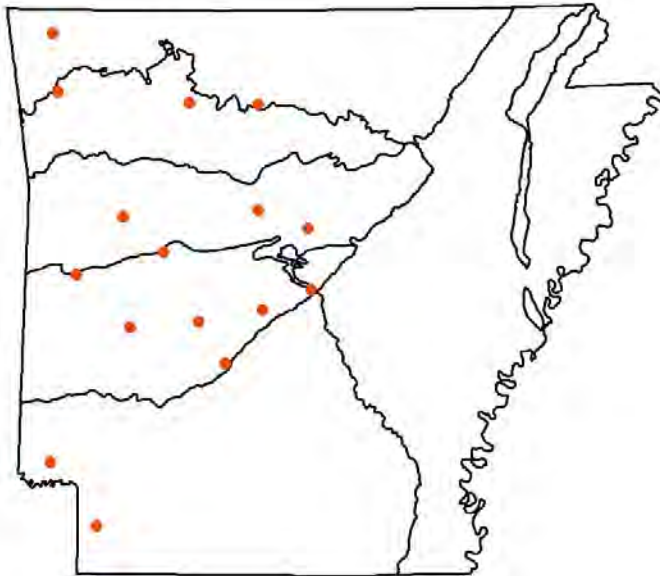
Global Rank: G3 — Vulnerable species

State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



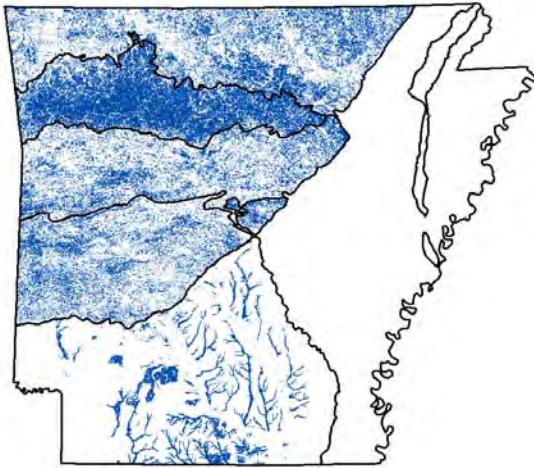
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Weight

Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Ozark-Ouachita Riparian	Suitable
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland	Suitable
West Gulf Coastal Plain Small Stream/River Forest	Suitable

Problems Faced

KNOWN PROBLEM: Habitat loss.

Threat: Alteration of natural fire regimes
Source: Fire suppression

KNOWN PROBLEM: Loss of habitat due to deer browsing.

Threat: Excessive herbivory
Source: Grazing/Browsing

POTENTIAL PROBLEM: Negative effects due to spraying of pesticides for gypsy moths.

Threat: Toxins/contaminants
Source: Management of/for certain species

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance **Category**

Medium Data Gap

Monitoring Strategies

Search appropriate habitat in hilly country where the host plant, New Jersey Tea (*Ceanothus americanus*), is common or at least widely distributed.

Comments

NatureServe (2015) describes this species as now being "rare, very rare, seriously imperiled, historic, or known extirpated from about the eastern 40% of its range and is not common anywhere." Schweitzer et al. (2011) chronicle the decline of this species and discuss a variety of relevant items, including the early decline of this skipper probably due to factors such as fire suppression, succession, reforestation, and urbanization. According to Spencer (2006), this species in Arkansas is a breeding resident with several broods and is local and uncommon statewide; the flight season is May through July. Reported from 21 Arkansas counties (Baltosser et al. 2015) but there can be difficulties in identifying this species. Schweitzer et al. (2011) state that "sight records should not be accepted as the basis for documenting new occurrences of this species, and occasionally even photographs may not be identifiable." Specimen records are available for each of the 10 counties for which Drs. William Baltosser, Craig Rudolph, and Charles Ely have data (personal communication, 2015). Surveys are needed to determine baseline information, and conservation measures need to be explored once there is more insight regarding the status and distribution of this species.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Euphydryas phaeton ozarkae

Baltimore Checkerspot

Class: Insecta
 Order: Lepidoptera
 Family: Nymphalidae

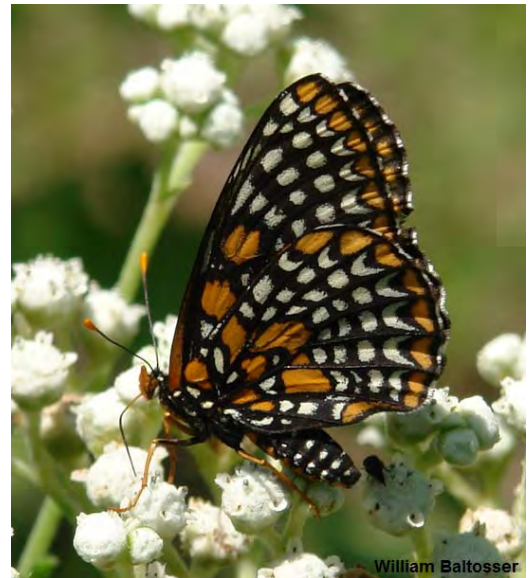
Priority Score: **27** out of 100



Population Trend: Unknown

Global Rank: G4T3 — Apparently secure (vulnerable subspecies)

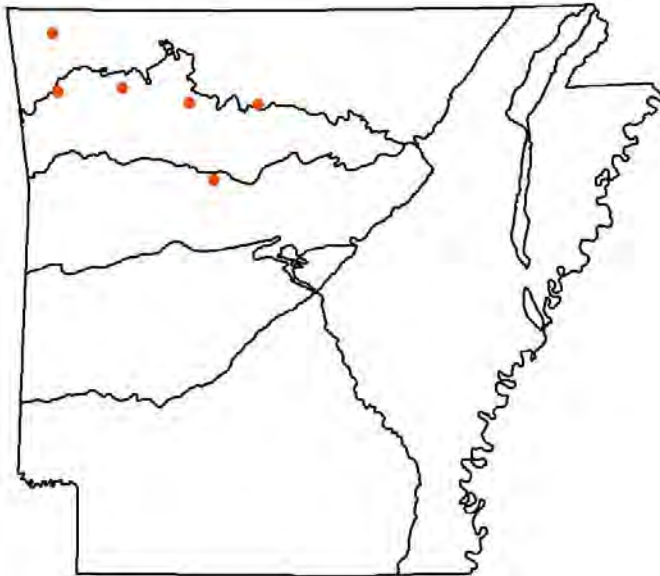
State Rank: S3 — Vulnerable in Arkansas



William Baltosser

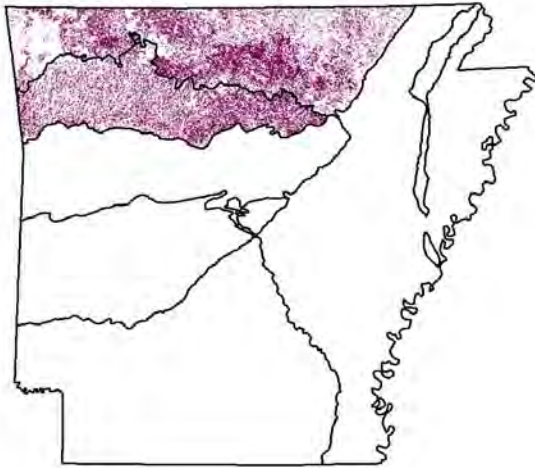
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Interior Highlands Calcareous Glade and Barrens	Optimal
Interior Highlands Dry Acidic Glade and Barrens	Optimal
Ozark-Ouachita Dry Oak and Pine Woodland	Optimal

Weight

Problems Faced

POTENTIAL PROBLEM: Habitat degradation due to deer browsing.

Threat: Excessive herbivory
Source: Grazing/Browsing

Data Gaps/Research Needs

More research is needed to determine whether populations in the southwestern portion of the species' range might actually be a second, cryptic species with its own set of habitat needs.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey dry, open wooded hillsides and glades in northern Arkansas that contain false foxglove (*Aureolaria* spp.), the larval foodplant in Arkansas prior to overwintering.

Comments

Ozark populations of this species described as distinct subspecies from eastern populations (Masters 1968). Virtually all published descriptions regarding the biology of this species refer to the eastern subspecies (*E. p. phaeton*). Investigations begun in 2009 by Baltosser, followed by in-depth studies of this butterfly by Stephen Robertson (MS Thesis 2015), have identified a number of sites of occurrence throughout the Ozark Mountains of northern Arkansas (Stephen Robertson and William Baltosser, personal communication, 2015). An extensive study of the subspecies in Arkansas shows that the ecology of the Ozark subspecies is in many ways very different from the eastern subspecies. These findings add support for a growing consensus that Ozark populations warrant full species status, an idea put forth among some investigators prior to the year 2000 (e.g., “Some question whether there might be two cryptic species instead of one widespread butterfly.” Opler and Malikul 1998). Heitzman and Heitzman (1996) characterize Missouri populations as being rare in western segments of the state but locally abundant in the eastern Ozarks. Within Arkansas, Spencer (2006) indicates that this species is local, being rare to uncommon in scattered colonies throughout the Ozarks; she considers this butterfly to be of special concern. Restricted range (recorded from 11 Arkansas counties; Baltosser et al. 2015), peculiarities in reproductive mode, and in some cases negative impacts by high density deer populations (noted for numerous species of Lepidoptera, Schweitzer et al. 2011) each contribute to vulnerability. Management decisions should take the protection and preservation of this butterfly into consideration. Noteworthy in this regard is the apparent need for periodic fire (late winter/early spring burns) to maintain suitable habitat; late summer/fall burns would presumably be highly detrimental.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Euphyes dion

Dion Skipper

Class: Insecta

Order: Lepidoptera

Family: Hesperiidae

Priority Score: **19** out of 100



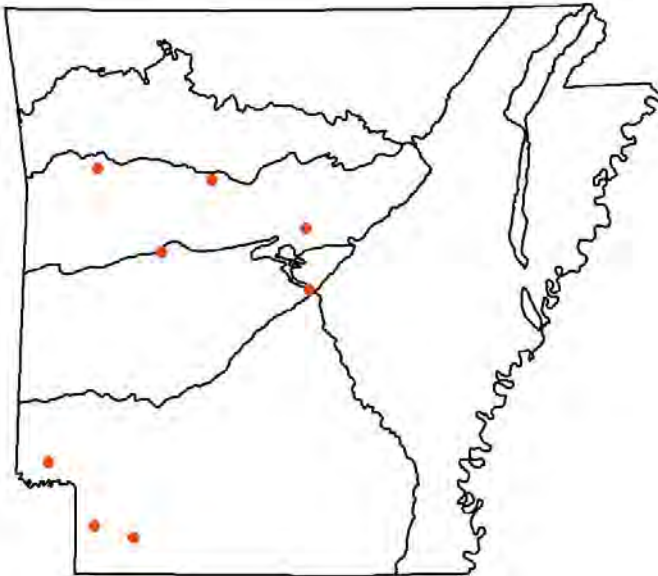
Population Trend: Unknown

Global Rank: G4 — Apparently secure species

State Rank: S3 — Vulnerable in Arkansas

Distribution

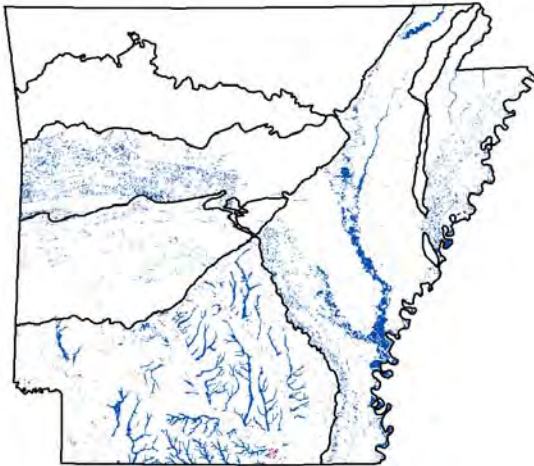
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Herbaceous Wetland	Optimal
Ozark-Ouachita Prairie and Woodland	Optimal
Ozark-Ouachita Riparian	Suitable
West Gulf Coastal Plain Small Stream/River Forest	Suitable

Weight

Problems Faced

KNOWN PROBLEM: Clearing and draining of wetlands have greatly reduced the available habitat for this species.

Threat: Habitat destruction or conversion
Source: Conversion of riparian forest

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey wetlands for this and other rare species.

Comments

State ranking for this species in NatureServe (2015) listed as SU, which indicates that the species is presumed to be extirpated in Arkansas. To the contrary, Spencer (2006) describes the species as inhabiting wetlands and being locally uncommon to locally common statewide in proper habitat; records for 9 Arkansas counties (Baltosser et al. 2015). The species is described as being "rare on coastal plain as it is in east Texas," with five records for Arkansas for only 2 counties (Lafayette and Little River; Drs. Craig Rudolph and Charles Ely, personal communication, 2015). Up to three individuals of this species have been noted multiple times (including mated/attached pairs) in marsh habitats in the Arkansas Valley (Franklin Co.) that bisect segments of tallgrass prairies (Dr. William Baltosser, personal communication, 2015). More information on the status of this species is needed, as a state ranking of SU has not been appropriate.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Euphyes dukesi

Dukes' Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **32** out of 100



Population Trend: Unknown

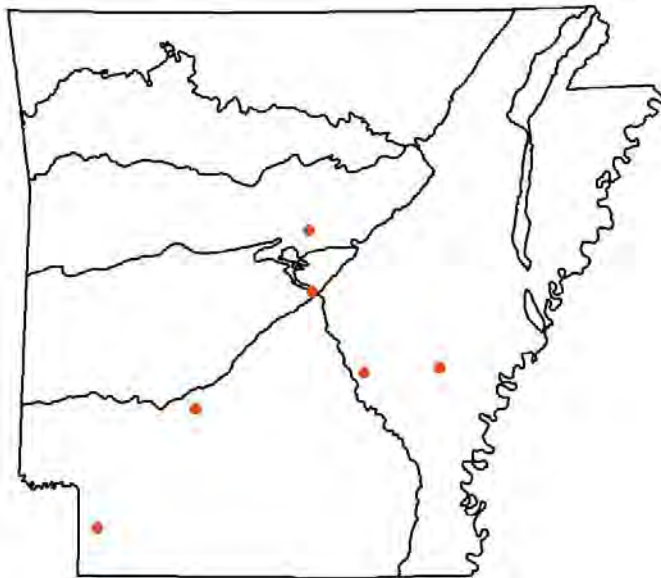
Global Rank: G3 — Vulnerable species

State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)



Distribution

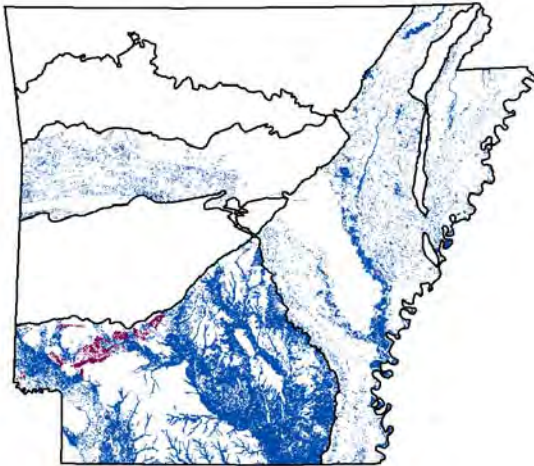
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Weight

Herbaceous Wetland	Optimal
Lower Mississippi Flatwoods Woodland and Forest	Suitable
Lower Mississippi River High Bottomland Forest	Suitable
Ozark-Ouachita Large Floodplain	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Optimal
West Gulf Coastal Plain Large River Floodplain Forest	Suitable
West Gulf Coastal Plain Red River Floodplain Forest	Suitable
West Gulf Coastal Plain Seepage Swamp and Baygall	Suitable
West Gulf Coastal Plain Small Stream/River Forest	Suitable

Problems Faced

KNOWN PROBLEM: Clearing and draining of bottomland forests and associated wetlands have greatly reduced the available habitat for this species.

Threat: Habitat destruction or conversion
Source: Conversion of riparian forest

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Euphyes dukesi
Dukes' Skipper

Conservation Actions

Importance **Category**

More data are needed to determine conservation actions.

Medium

Data Gap

Monitoring Strategies

Survey high-quality riverine wetlands in the Delta and West Gulf Coastal Plain regions for this and other rare species.

Comments

Vaughan and Shepherd (2005) describe Dukes' Skipper as occurring in scattered locations across the United States and southern Canada. Populations are listed as being fragmented throughout the range of the species and it is considered uncommon at all sites. This skipper occupies a variety of moist habitats with long grass, which includes marshes and ditches, but the primary habitat is stated to be patches of sedge in forested swamps. Vaughan and Shepherd also state that Dukes' Skipper deserves conservation efforts wherever it is found. Within Arkansas, the species has been found in 9 counties (Baltosser et al. 2015) and Spencer (2006) describes the species as a breeding resident occupying shady swamps, marshes, and ditches. She lists distribution and abundance as local, being rare to uncommon throughout the Coastal Plain. More information is needed to gauge the status of this very rare skipper; it should be looked for in all moist habitats.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Gomphus ozarkensis

Ozark Clubtail Dragonfly

Class: Insecta
 Order: Odonata
 Family: Gomphidae

Priority Score: **27** out of 100



Population Trend: Unknown

Global Rank: G4 — Apparently secure species

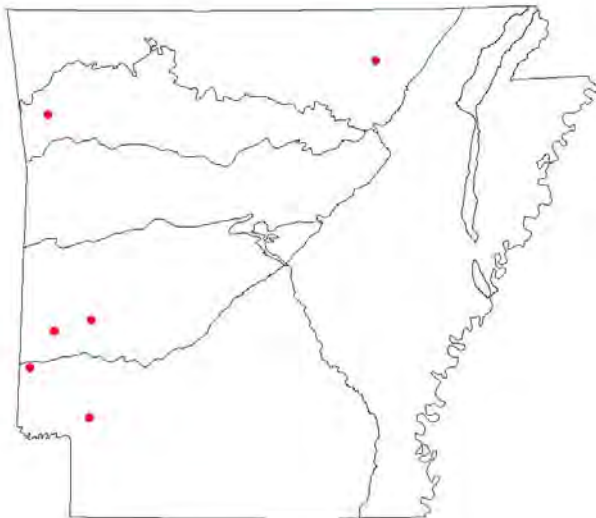
State Rank: S1 — Critically imperiled in Arkansas



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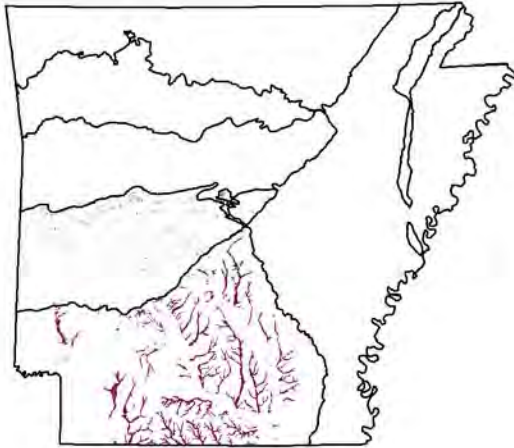
Distribution

Element Occurrence Records

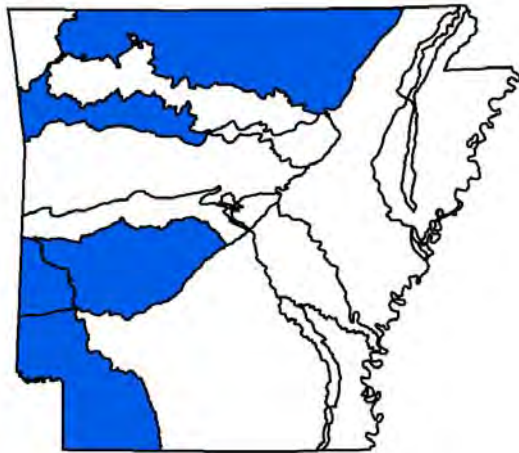
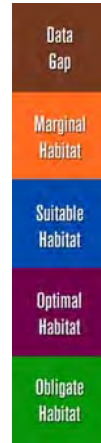


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - Arkansas River

Ouachita Mountains - Ouachita River

South Central Plains - Red River

Terrestrial Habitats

Ozark-Ouachita Large Floodplain Data Gap

Ozark-Ouachita Riparian Optimal

West Gulf Coastal Plain Small Stream/River Forest Optimal

Aquatic Habitats

Natural Pool: - Small - Medium

Suitable

Problems Faced

Threat: Hydrological alteration

Source: Dam

Threat: Sedimentation

Source: Resource extraction

Threat: Toxins/contaminants

Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance **Category**

Medium

Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

The Ozark clubtail is a regional endemic found in Missouri, Kansas, Oklahoma, and Arkansas.

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Gryllotalpa major

Prairie Mole Cricket

Class: Insecta
 Order: Orthoptera
 Family: Gryllotalpidae

Priority Score: **32** out of 100



Population Trend: Unknown

Global Rank: G3 — Vulnerable species

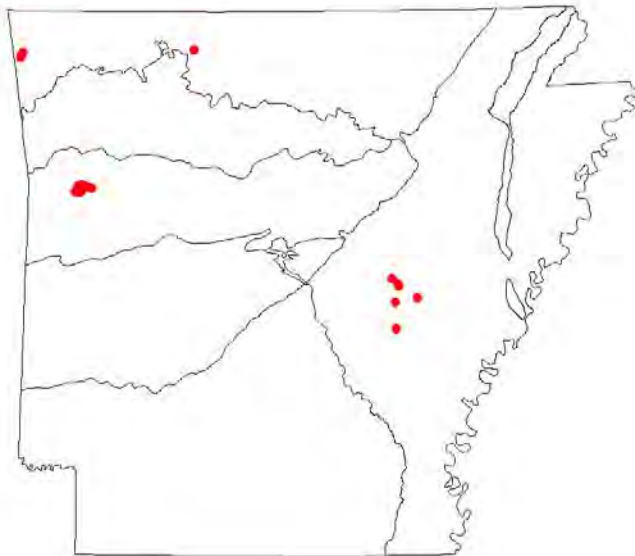
State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)



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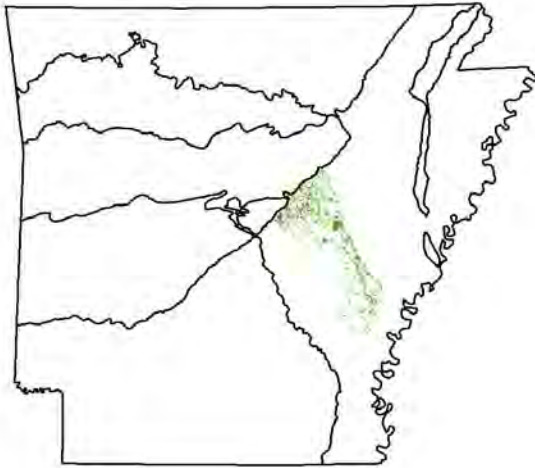
Distribution

Occurrence Records

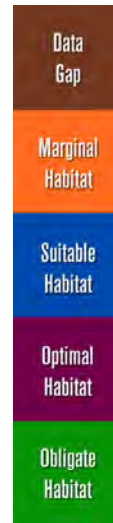


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

- Lower Mississippi Alluvial Plain Grand Prairie
- Ozark-Ouachita Prairie and Woodland

Weight

- Obligate
- Obligate

Problems Faced

Loss and degradation of prairie habitat.

Threat: Habitat destruction or conversion
Source: Grazing/Browsing

Loss and degradation of prairie habitat.

Threat: Habitat destruction or conversion
Source: Commercial/industrial development

Loss and degradation of prairie habitat.

Threat: Habitat fragmentation
Source: Urban development

Data Gaps/Research Needs

Need status assessments of known populations.

Conservation Actions

Importance Category

More data are needed to determine conservation actions.

Medium Data Gap

Monitoring Strategies

Most occurrences are known. Habitat restoration on surrounding lands is critical for this species survival.

Comments

A prairie-specialist, the prairie mole cricket is restricted to good-quality tallgrass prairie habitat.

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Hesperia leonardus

Leonard's Skipper

Class: Insecta

Order: Lepidoptera

Family: Hesperiidae

Priority Score: **19** out of 100



Population Trend: Unknown

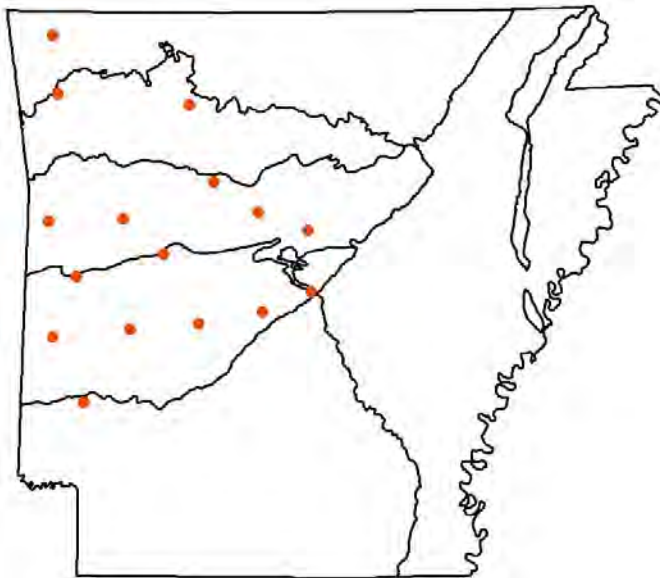
Global Rank: G4 — Apparently secure species

State Rank: S3 — Vulnerable in Arkansas



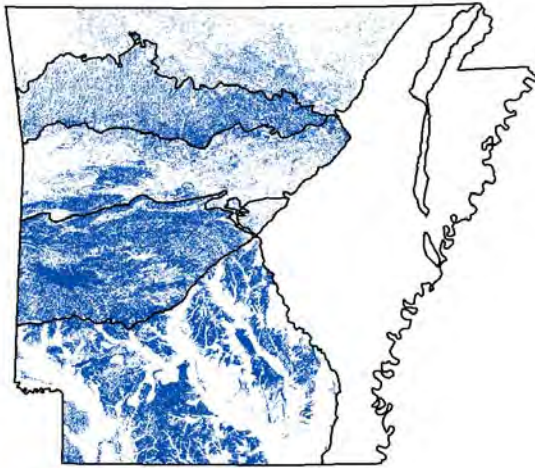
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Ozark-Ouachita Prairie and Woodland	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable

Weight

Problems Faced

KNOWN PROBLEM: Loss of habitat.

Threat: Habitat destruction or conversion
Source: Agricultural practices

KNOWN PROBLEM: Loss of habitat.

Threat: Altered composition/structure
Source: Fire suppression

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Look for this species in open oak, pine, or mixed woodlands; oak savannas; rights of way in dry oak woods or pine barrens; edges of airport grasslands; grassy rock outcrops; native sand plain grasslands; and dry meadows. Flight season is between August and October in Arkansas.

Comments

According to NatureServe (2015), this species is of possible long-term concern, but for now there are a substantial number of presumably viable occurrences, and it is credibly ranked S3 or S4 in several states. No S5 ranks are supportable now and may have never been. Surveys are needed to determine baseline information, and conservation measures need to be explored once there is more insight regarding the status and distribution of this species. With respect to Arkansas, Spencer (2006) indicates that this species is an irregular emigrant in low numbers and has been seen in scattered locations from north to central Arkansas. A single specimen has recently been obtained from Newton County (Dr. William Baltosser, personal communication, 2015), Drs. Craig Rudolph and Charles Ely have records for 9 counties, and records depicted by Raney (2012) round out the known occurrence of the species and bring the total to 17 Arkansas counties of occurrence (Baltosser et al. 2015).

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Hesperia meskei

Meske's Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **29** out of 100



Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

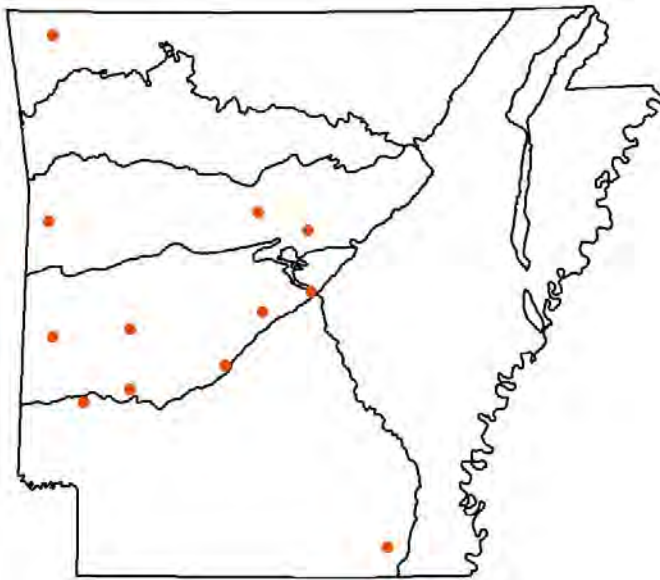
State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)



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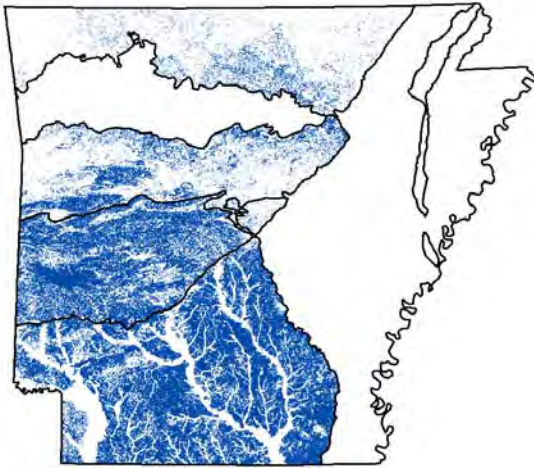
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

	Weight
Lower Mississippi Flatwoods Woodland and Forest	Suitable
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Ozark-Ouachita Prairie and Woodland	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland	Suitable

Problems Faced

KNOWN PROBLEM: Fire suppression has had a negative impact on potential habitat.

Threat: Alteration of natural fire regimes
Source: Fire suppression

KNOWN PROBLEM: Habitat destruction.

Threat: Habitat destruction or conversion
Source: Urban development

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance **Category**

More data are needed to determine conservation actions.

Medium

Data Gap

Monitoring Strategies

Need a thorough survey of the Ozark Highlands, Boston Mountains, Southern Coastal Plains, and Ouachita Mountains ecoregions to determine status of this and other rare species in the state.

Comments

Associated with sparse, open woodlands (Opler and Malikul 1998). NatureServe (2015) indicates that if the species is not currently globally rare it will probably become so soon. An isolated population cluster in central Arkansas is noted within the discussion. There are records of occurrence from 12 Arkansas counties (Baltosser et al. 2015). Surveys conducted in and around the Buffalo National River, in prairie habitats in Franklin Co., and in blackland woodland habitats farther to the south have not resulted in the detection of this species (Dr. William Baltosser, personal communication 2015). In contrast, Drs. Craig Rudolph and Charles Ely have seven records from 6 counties. The species in Arkansas should continue to be monitored for occurrence and ultimately for population trends.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Hesperia metea

Cobweb Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **19** out of 100



Population Trend: Unknown

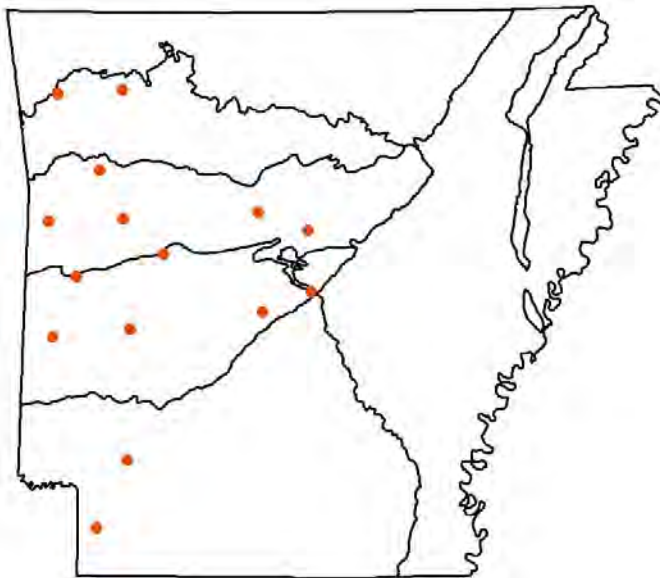
Global Rank: G4 — Apparently secure species

State Rank: S3 — Vulnerable in Arkansas



Distribution

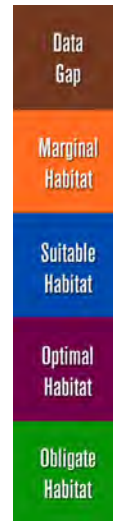
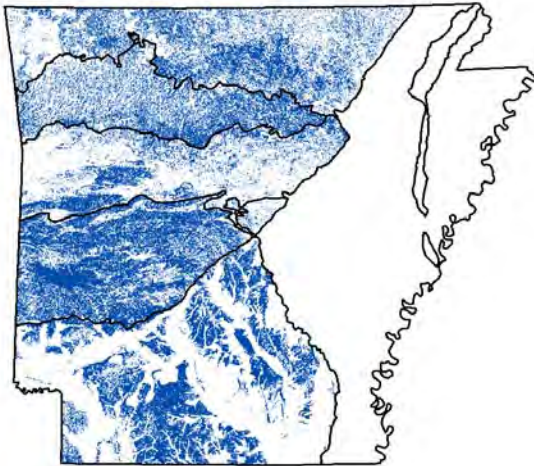
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Weight

Cultivated Forest	Suitable
Interior Highlands Calcareous Glade and Barrens	Suitable
Interior Highlands Dry Acidic Glade and Barrens	Suitable
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
West Gulf Coastal Plain Pine-Hardwood Forest/Woodland	Suitable

Comments

State ranking for this species in NatureServe (2015) is listed as SU, which indicates that the species is presumed to be extirpated in Arkansas. To the contrary, Spencer (2006) describes the species as inhabiting open grassy areas and being locally rare to common, mainly in central and western Arkansas (records for 18 Arkansas counties; Baltosser et al. 2015). The species is described as being "regular on dry, open hillsides" (Dr. Craig Rudolph, personal communication, 2015); he has documented the species as occurring in 6 Arkansas counties. There is an additional record from Hempstead County (9 June 2006) of an individual of this species on an open hillside (barren pine plantation) adjacent to Rick Evans WMA (Dr. William Baltosser, personal communication, 2015). More information on the status of this species is needed as a state ranking of SU is not appropriate.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Heterosternuta ouachita

Ouachita Diving Beetle

Class: Insecta
 Order: Coleoptera
 Family: Dytiscidae

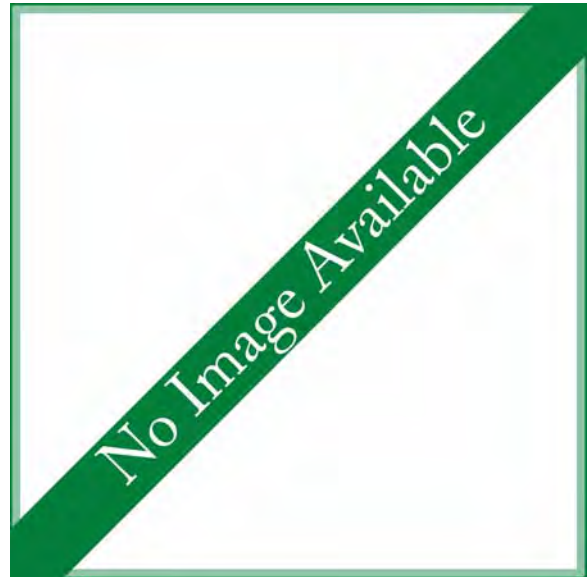
Priority Score: **19** out of 100



Population Trend: Unknown

Global Rank: GNR — Not yet ranked

State Rank: S2 — Imperiled in Arkansas



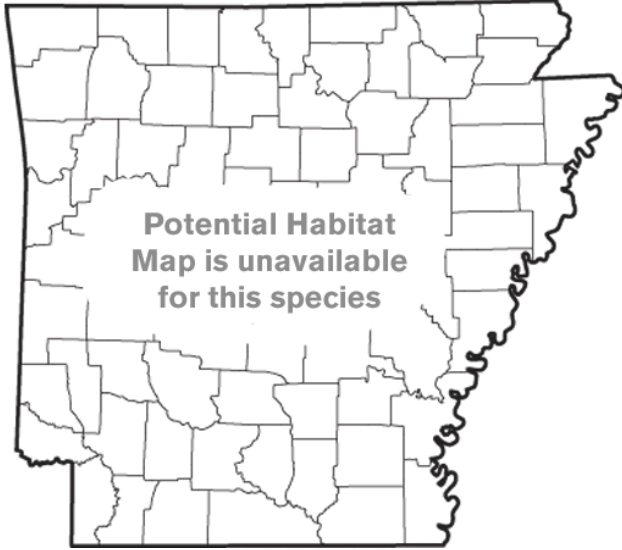
Distribution

Element Occurrence Records

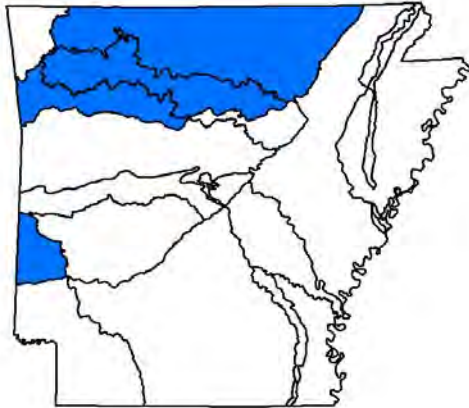


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - Arkansas River

Boston Mountains - White River

Ouachita Mountains - Red River

Ozark Highlands - White River

Terrestrial Habitats

Ozark-Ouachita Riparian

Optimal

Aquatic Habitats

Natural Pool: - Small Suitable

Natural Riffle: - Small Suitable

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance **Category**

Limit activities that impair water quality.

Medium

Habitat Protection

Protect stream habitat from construction of impoundments.

Medium

Habitat Protection

Monitoring Strategies

Survey for additional populations and monitor known occurrences.

Comments

No information available.

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Heterosternuta phoebeae

Predaceous Diving Beetle

Class: Insecta

Order: Coleoptera

Family: Dysticidae

Priority Score: **46** out of 100



Population Trend: Unknown

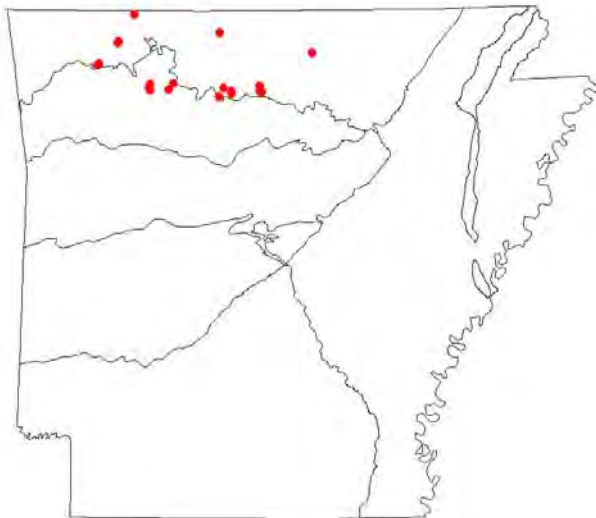
Global Rank: G2 — Imperiled species

State Rank: S2 — Imperiled in Arkansas



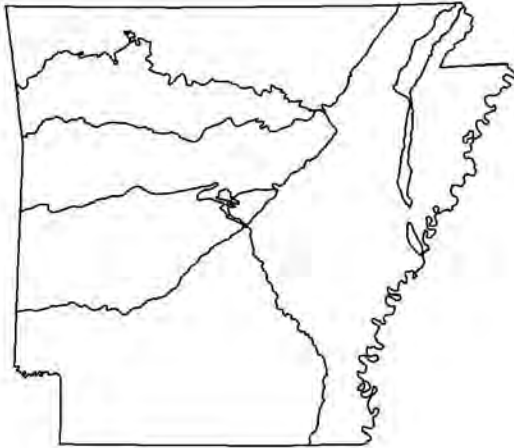
Distribution

Element Occurrence Records

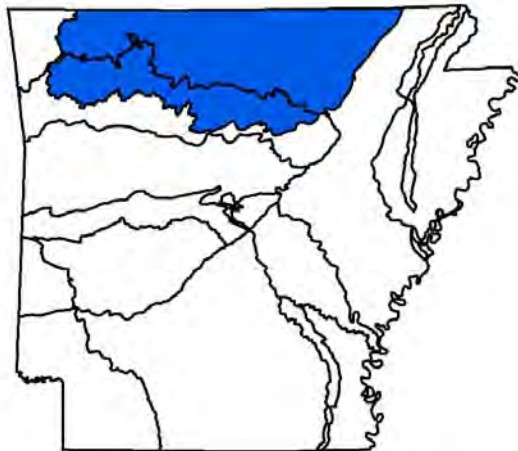
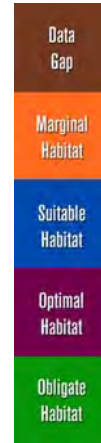


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Boston Mountains - White River

Ozark Highlands - White River

Terrestrial Habitats

Ozark-Ouachita Riparian Optimal

Aquatic Habitats

Natural Pool: - Small Suitable

Natural Riffle: - Small Suitable

Problems Faced

Threat: Hydrological alteration
Source: Dam

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Comments

An Arkansas endemic beetle with a limited distribution along the Buffalo River watershed.

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Heterosternuta sulphuria

Sulphur Springs Diving Beetle

Class: Insecta

Order: Coleoptera

Family: Dytiscidae

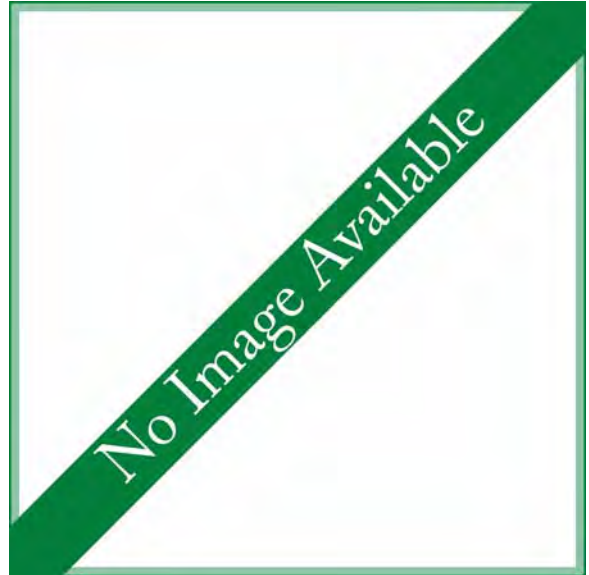
Priority Score: **80** out of 100



Population Trend: Unknown

Global Rank: G1? — Critically imperiled (inexact numeric rank)

State Rank: S1? — Critically imperiled in Arkansas (inexact numeric rank)



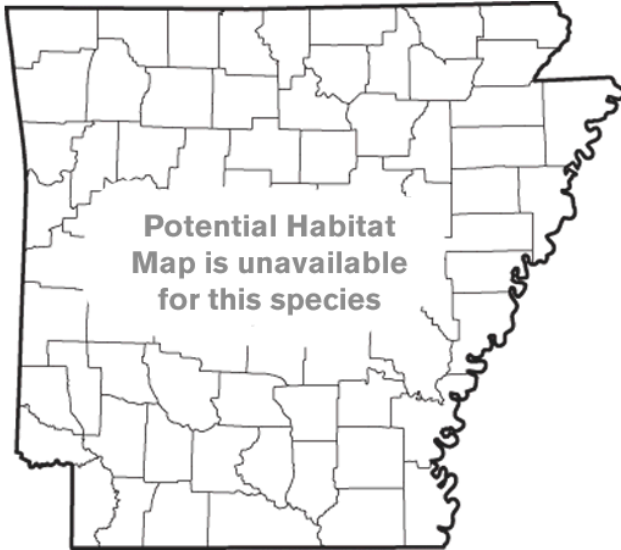
Distribution

Element Occurrence Records

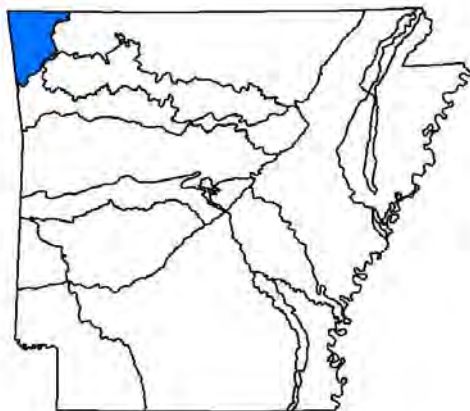


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Ozark Highlands - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Riparian Optimal

Aquatic Habitats

Natural Spring Run: - Small Optimal

Problems Faced

Threat: Sedimentation
Source: Road construction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance	Category
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Medium	Data Gap
--------	----------

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An Arkansas endemic beetle known only from a single natural spring in Benton County (Matta and Wolfe 1979).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Isoperla szczytkoi

Magazine Stripetail

Class: Insecta

Order: Plecoptera

Family: Perlodidae

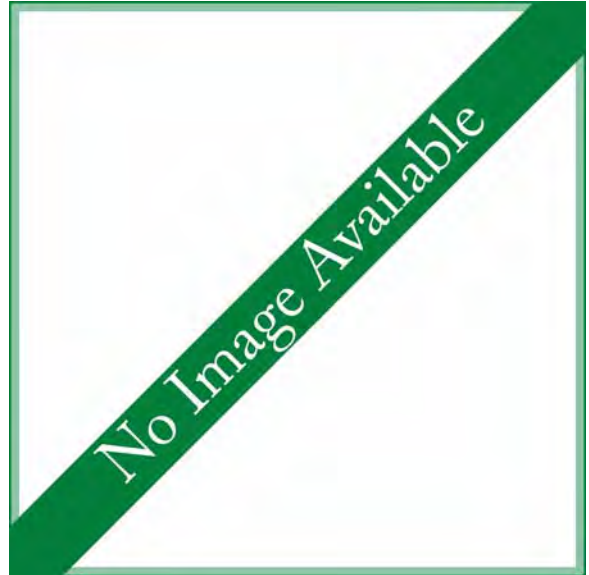
Priority Score: **80** out of 100



Population Trend: Unknown

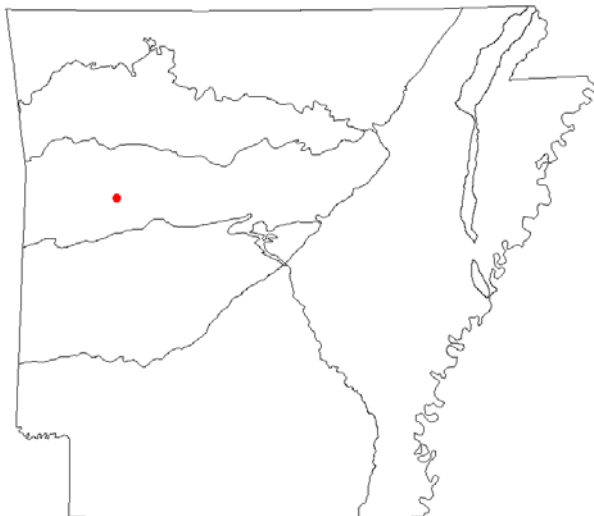
Global Rank: G1 — Critically imperiled species

State Rank: S1 — Critically imperiled in Arkansas



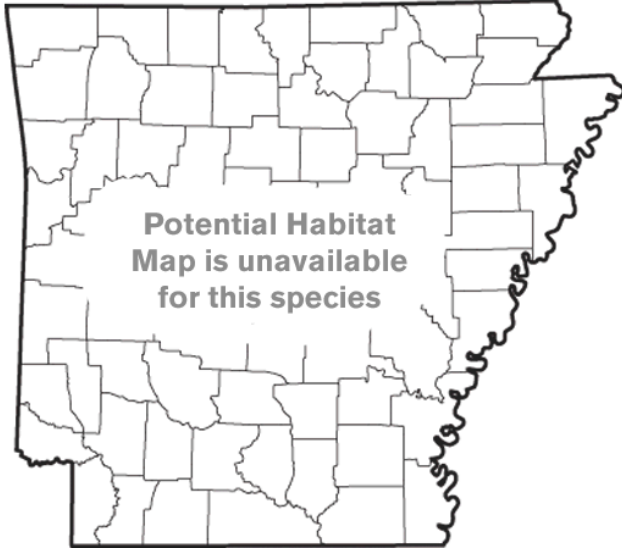
Distribution

Element Occurrence Records

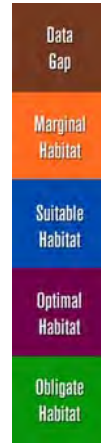


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Arkansas Valley - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Prairie and Woodland Suitable

Aquatic Habitats

Natural Other: - Small Suitable

Problems Faced

Threat: Sedimentation
Source: Forestry activities

Isoperla szczytkoi
Magazine Stripetail

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

This stonefly is endemic to Arkansas and is only known from Gutter Rock Creek on Magazine Mountain in Logan County (Poulton and Stewart 1987).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Leuctra paleo

Stonefly

Class: Insecta
 Order: Plecoptera
 Family: Leuctridae

Priority Score: **50** out of 100



Population Trend: Unknown

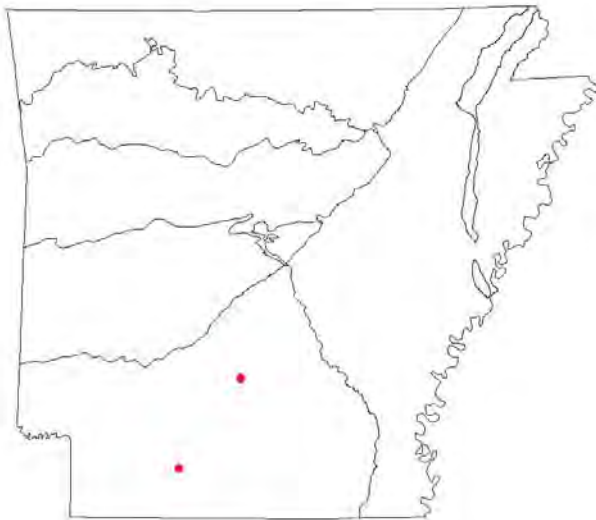
Global Rank: G2 — Imperiled species

State Rank: S1 — Critically imperiled in Arkansas



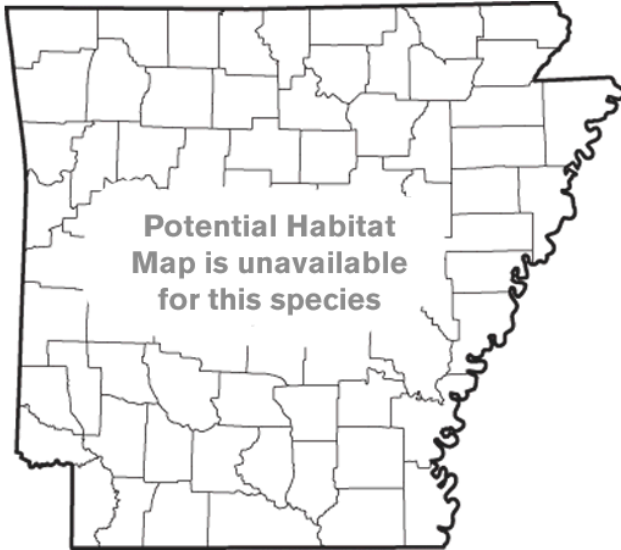
Distribution

Element Occurrence Records

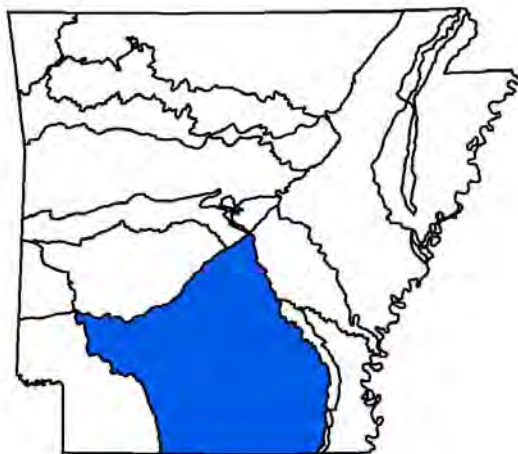


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Ouachita Mountains - Ouachita River

Problems Faced

Threat: Sedimentation

Source: Resource extraction

Threat: Toxins/contaminants

Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance **Category**

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

Known from two streams in Columbia Co., and Dallas Co., Arkansas. (Robison and Allen 1995, Stark 1998)

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Lycaena hyllus

Bronze Copper

Class: Insecta

Order: Lepidoptera

Family: Lycaenidae

Priority Score: **11** out of 100



Population Trend: Unknown

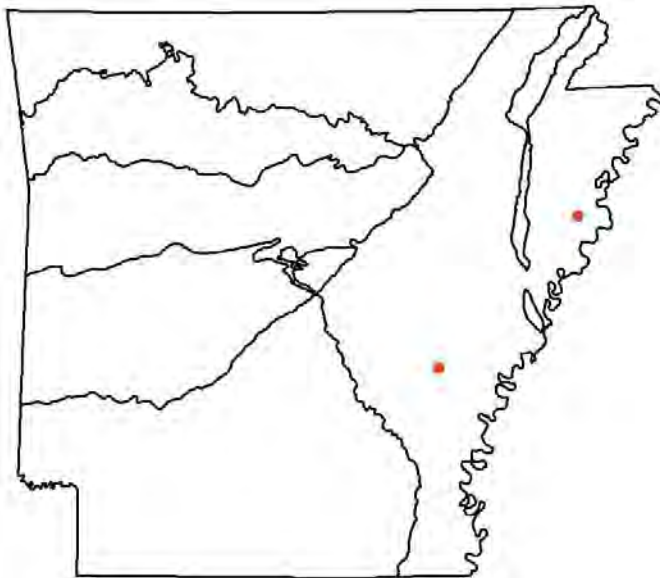
Global Rank: G5 — Secure

State Rank: S4 — Apparently secure in Arkansas



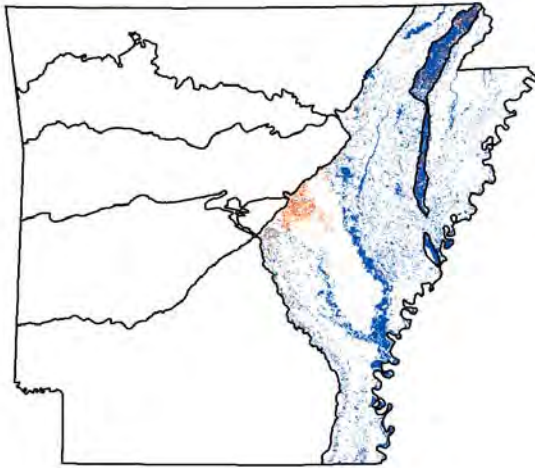
Distribution

Occurrence Records

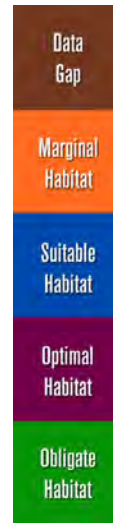


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Crowley's Ridge Loess Slope Forest	Suitable
Herbaceous Wetland	Suitable
Lower Mississippi Flatwoods Woodland and Forest	Suitable
Lower Mississippi River High Bottomland Forest	Suitable
Lower Mississippi River Riparian Forest	Suitable
Pasture Land	Marginal

Weight

Problems Faced

POTENTIAL PROBLEM: Population declines due to flooding.

Threat: Hydrological alteration
Source: Urban development

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey wet open areas (e.g., streams, swamps, rivers) in eastern Arkansas for this and other rare species.

Comments

Heitzman and Heitzman (1996) characterize the species as being rare in the Ozarks of Missouri; there are no records of the species for the Ozarks of Arkansas (Baltosser et al. 2015). With regard to Arkansas, the following is from Spencer (2006): Eastern Arkansas is part of the southern periphery of the range of this butterfly. Most known colonies are from the Delta and Crowley's Ridge near the Mississippi River. This is a species of special concern. Habitat wet open areas (e.g., streams, swamps, rivers); breeding resident with several broods; local, rare to uncommon. More information needed to better gauge the current status and distribution of this species in Arkansas, which includes records from 6 eastern Arkansas counties (Baltosser et al. 2015).

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Microstylum morosum

Giant Prairie Robberfly

Class: Insecta
 Order: Diptera
 Family: Asilidae

Priority Score: **31** out of 100



Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

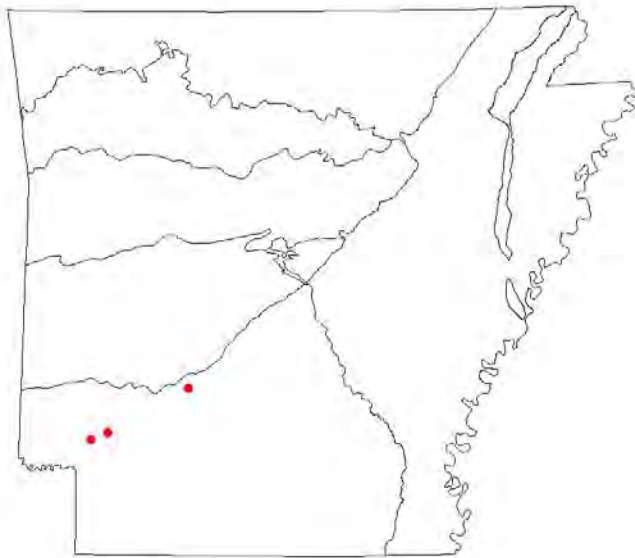
State Rank: S1 — Critically imperiled in Arkansas



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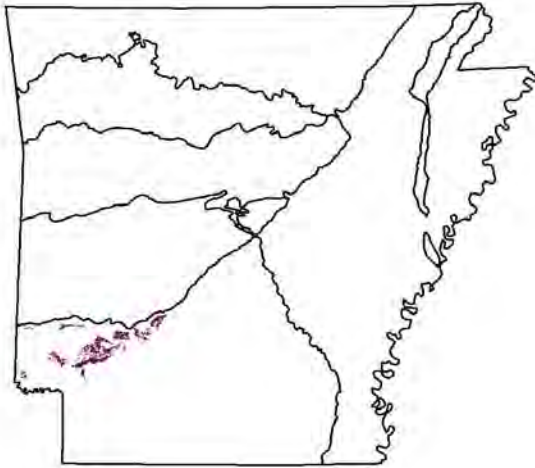
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Prairie and Woodland

Weight

Optimal

West Gulf Coastal Plain Calcareous Prairie and Woodland

Optimal

Problems Faced

Loss and degradation of grassland habitat.

Threat: Habitat destruction or conversion
Source: Urban development

Loss and degradation of grassland habitat.

Threat: Alteration of natural fire regimes
Source: Fire suppression

Loss and degradation of grassland habitat.

Threat: Habitat destruction or conversion
Source: Grazing/Browsing

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance Category

More data are needed to determine conservation actions.

Medium Data Gap

Monitoring Strategies

Surveys should be conducted to locate additional populations of this species.

Comments

This predaceous robberfly was only known from one site in southwestern Arkansas and is Arkansas' largest fly species (Warriner 2004). A survey for other records found that the species also occurs in prairie edge habitats in Howard County (Millwood Lake) and Hempstead County (Grandview Prairie Wildlife Management Area), and an isolated specimen was collected from Baxter County near the Missouri border (Tumlison and Benjamin 2011). Relatively recent surveys (2010, 2011, and 2012) of the Terre Noire Natural Area, where the species was first discovered in Arkansas, confirm the continued presence of the species at the site (Tumlison and Benjamin 2013). These surveys have discovered that this species is probably not an outright prairie species, but instead uses the ecotone between wooded and prairie habitat. The latter has important ramifications in view of potential timber sales and the clearing of woody vegetation in many areas of occupied habitat. Habitat management for this species needs to factor the woodland component into the management of this species.

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner, HSU Dr. Renn Tumlison, HSU Ms. Kristen Benjamin, UALR Dr. William Baltosser

Neonympha areolatus

Georgia Satyr

Class: Insecta
 Order: Lepidoptera
 Family: Nymphalidae

Priority Score: **27** out of 100



Population Trend: Unknown

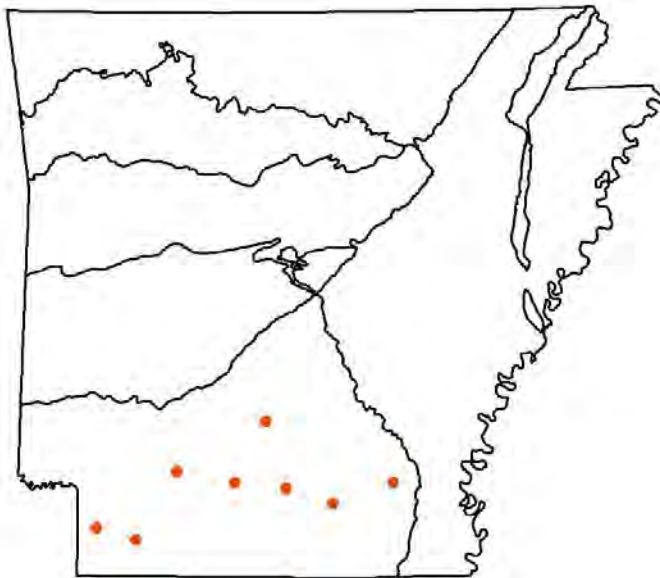
Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S2 — Imperiled in Arkansas



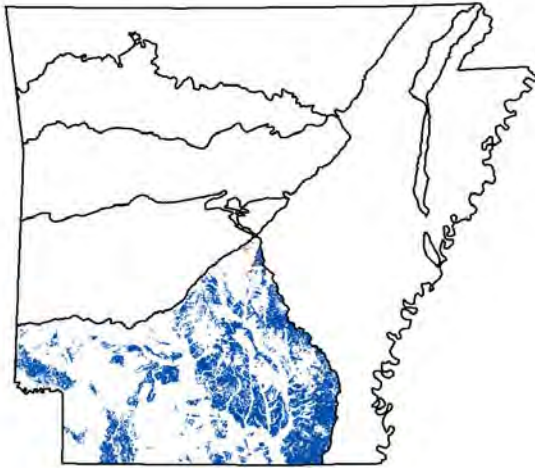
Distribution

Occurrence Records

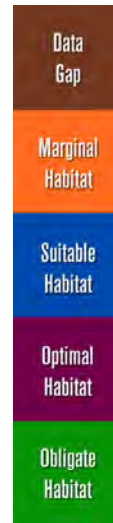


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

West Gulf Coastal Plain Pine-Hardwood Flatwoods	Suitable
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland	Suitable

Weight

Problems Faced

KNOWN PROBLEM: Fire suppression.

Threat: Alteration of natural fire regimes
Source: Fire suppression

KNOWN PROBLEM: Habitat loss due to conversion to plantations.

Threat: Habitat destruction or conversion
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Inventory high-quality pine woodland remnants in the West Gulf Coastal Plain for this and other rare species.

Comments

NatureServe (2015) states that the species was historically rather common but there is growing concern because of loss of habitat to pine plantations and development. This butterfly is dependent upon openings in sandy pinewoods or pinebarrens (Opler and Malikul 1998). Eight counties of occurrence in Arkansas with no apparent recent records of occurrence (Baltosser et al. 2015). The species should be monitored for its presence and ultimately for population trends in Arkansas.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Nicrophorus americanus

American Burying Beetle

Class: Insecta

Order: Coleoptera

Family: Silphidae

Priority Score: **42** out of 100



Population Trend: Unknown

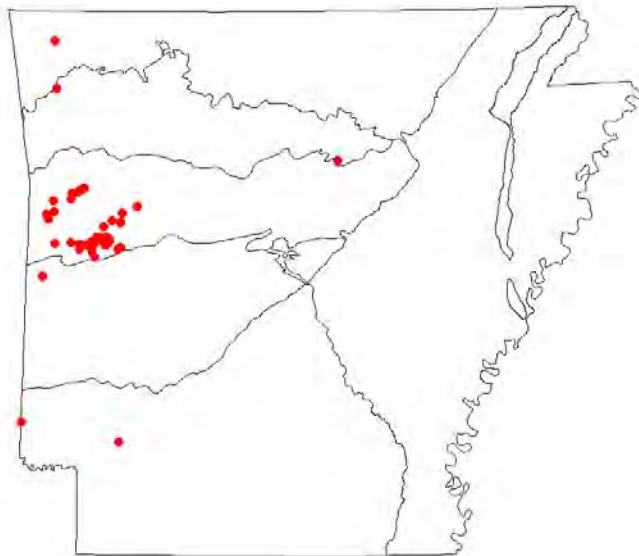
Global Rank: G2G3 — Imperiled (uncertain rank)

State Rank: S1 — Critically imperiled in Arkansas



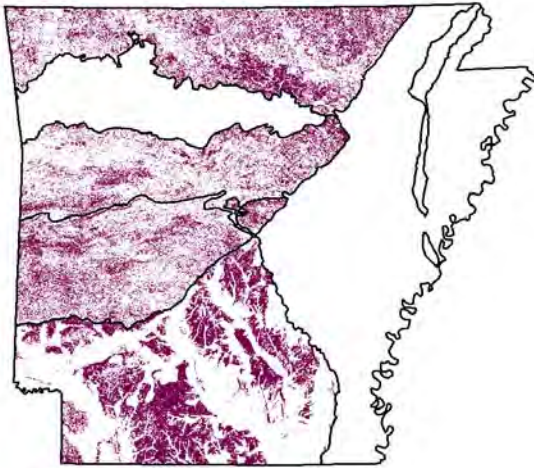
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

	Weight
Ozark-Ouachita Dry Oak and Pine Woodland	Optimal
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Optimal
Ozark-Ouachita Mesic Hardwood Forest	Optimal
Ozark-Ouachita Pine-Oak Forest/Woodland	Optimal
Ozark-Ouachita Prairie and Woodland	Obligate

Problems Faced

Competition with other scavengers for suitable carcasses.

Threat: Extraordinary competition for resources
Source: Predation

Habitat destruction.

Threat: Habitat destruction or conversion
Source: Urban development

Habitat fragmentation.

Threat: Habitat fragmentation
Source: Commercial/industrial development

Data Gaps/Research Needs

Need surveys of historical occurrences to determine persistence.

Conservation Actions

Importance Category

Manage areas where this species occurs to increase numbers of small mammals and ground-nesting birds.	High	Habitat Restoration/Improvement
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Reduce habitat fragmentation.	High	Habitat Restoration/Improvement
-------------------------------	------	---------------------------------

Suspend application of herbicides.	High	Habitat Protection
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Monitoring Strategies

Survey for additional populations and monitor known occurrences.

Comments

In Arkansas, occurrences are limited to five counties in the western part of the state. Most of these occurrences are from federal lands, such as Fort Chaffee Military Reservation and the Ouachita National Forest (ANHI Rare Fact Sheet IICOL42010 dated 2-04-02, ANHI 2003, ONHI 2003).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Ochrotrichia contorta

Contorted Ochrotrichian Microcaddisfl

Class: Insecta
 Order: Trichoptera
 Family: Hydroptilidae

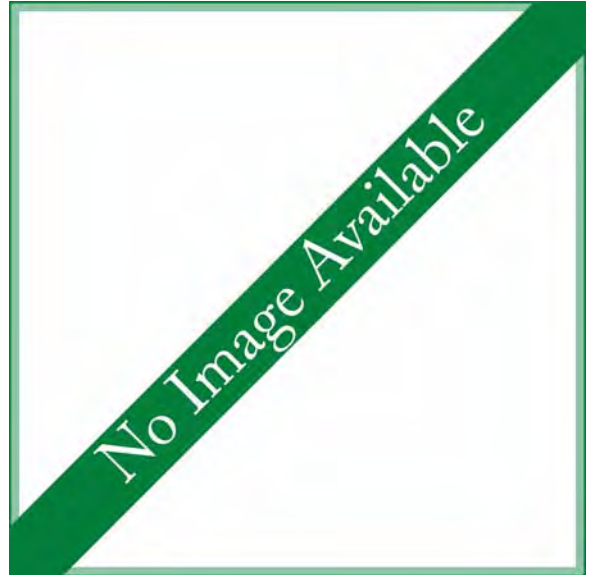
Priority Score: **50** out of 100



Population Trend: Unknown

Global Rank: G1G2 — Critically imperiled (uncertain rank)

State Rank: SNR — Species not ranked in Arkansas



Distribution

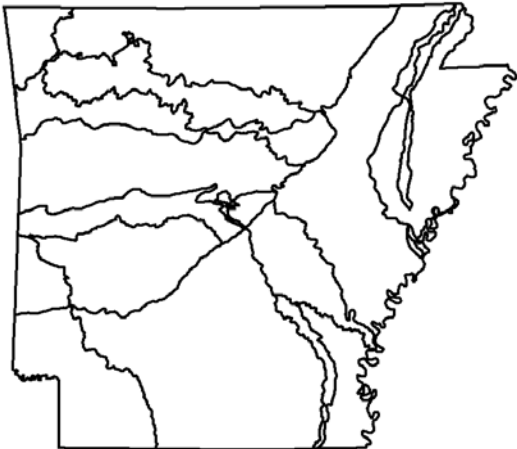
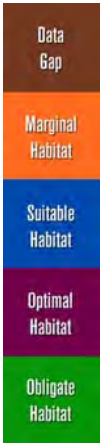
Element Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains

Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Ozark Highlands - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Pool: - Small - Medium Data Gap

Natural Riffle: - Small - Medium Data Gap

Ochrotrichia contorta
Contorted Ochrotrichian Microcaddisfly

Problems Faced

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance	Category
------------	----------

Medium	Data Gap
--------	----------

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

A regional endemic insect known only from sites in Arkansas and Missouri (Robison and Allen 1995).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Ochrotrichia robisoni

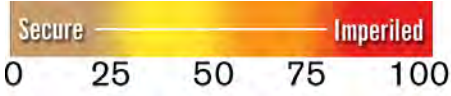
Microcaddisfly

Class: Insecta

Order: Trichoptera

Family: Hydroptilidae

Priority Score: **57** out of 100



Population Trend: Unknown

Global Rank: G1G3 — Critically imperiled (uncertain rank)

State Rank: S1 — Critically imperiled in Arkansas



Distribution

Element Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains

Problems Faced

Threat: Sedimentation
Source: Road construction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance	Category
------------	----------

Medium	Data Gap
--------	----------

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic caddisfly known only from Bear Creek in Perry County (Frazer and Harris 1991).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Ophiogomphus westfalli

Ozark Snaketail Dragonfly

Class: Insecta
 Order: Odonata
 Family: Gomphidae

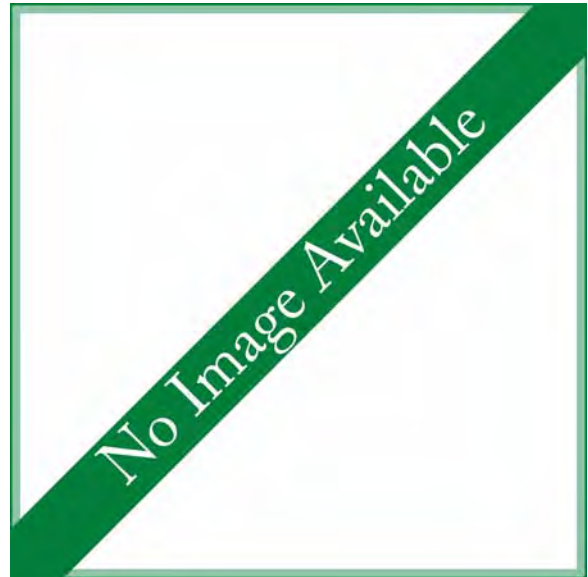
Priority Score: **32** out of 100



Population Trend: Unknown

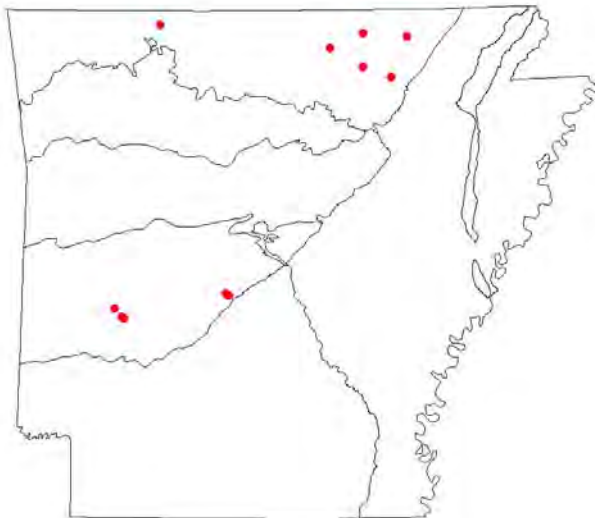
Global Rank: G3 — Vulnerable species

State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)



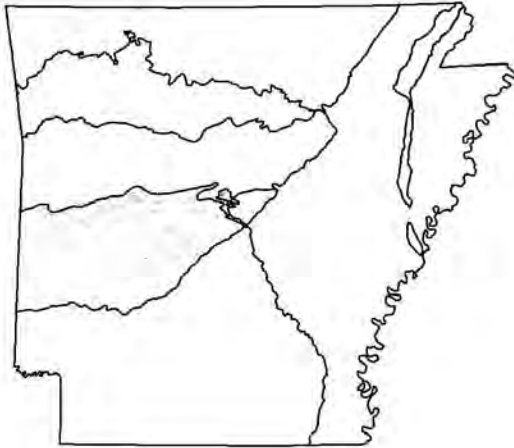
Distribution

Element Occurrence Records

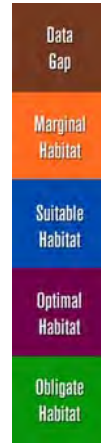


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Ouachita Mountains - Ouachita River

Ouachita Mountains - Red River

Ozark Highlands - White River

Terrestrial Habitats

Ozark-Ouachita Large Floodplain Data Gap

Ozark-Ouachita Riparian Obligate

Aquatic Habitats

Natural Pool: - Small - Medium Suitable

Ophiogomphus westfalli
Ozark Snaketail Dragonfly

Problems Faced

Threat: Sedimentation
Source: Recreation

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

A regionally endemic dragonfly found in Arkansas, Kansas and Missouri (Cook and Daigle 1985).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Ouachitychus parvoculus

Small-eyed Mold Beetle

Class: Insecta

Order: Coleoptera

Family: Pselaphidae

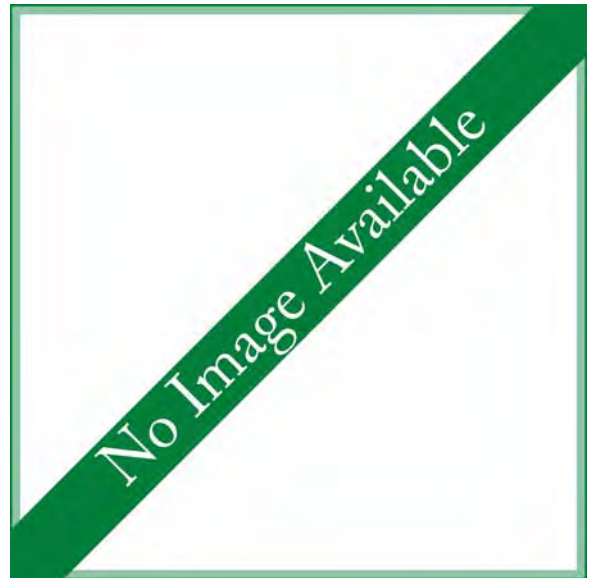
Priority Score: **19** out of 100



Population Trend: Unknown

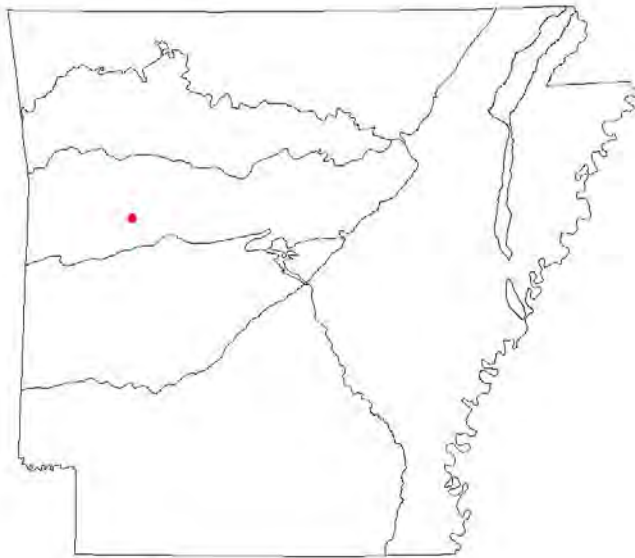
Global Rank: GNR — Not yet ranked

State Rank: S2 — Imperiled in Arkansas



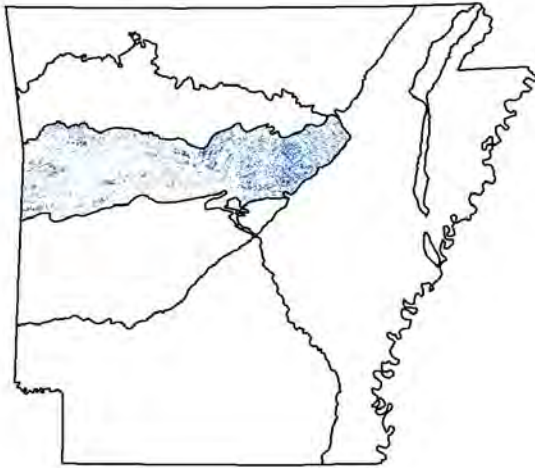
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry-Mesic Oak Forest

Weight

Suitable

Ozark-Ouachita Mesic Hardwood Forest

Suitable

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat destruction or conversion
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Population Management

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An endemic beetle once known only from Bear Hollow on Magazine Mountain in Logan County (Chandler 1988). This species was collected at Roaring Branch Research Natural Area in Polk County, in the Ozark-St. Francis National Forest, and at Devil's Den State Park in 2013 (A. Dowling, pers. Comm.).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Paduniella nearctica

Nearctic Paduniellan Caddisfly

Class: Insecta
 Order: Trichoptera
 Family: Psychomyiidae

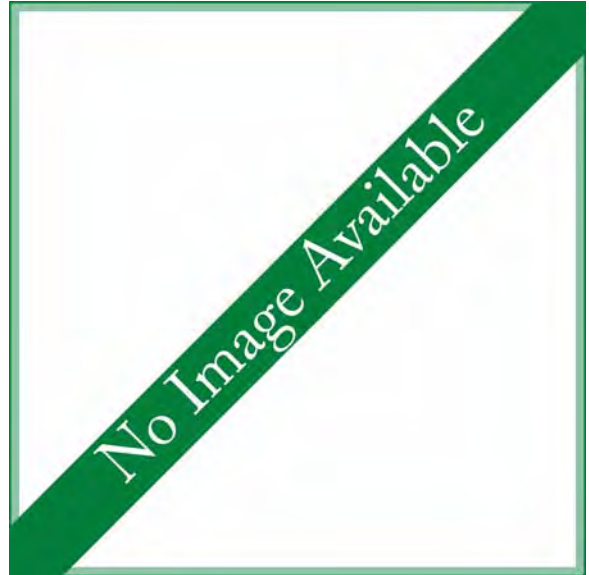
Priority Score: **65** out of 100



Population Trend: Unknown

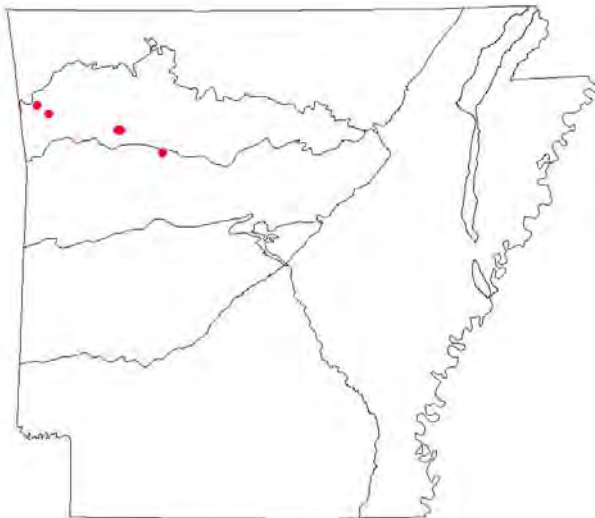
Global Rank: G1G2 — Critically imperiled (uncertain rank)

State Rank: S1? — Critically imperiled in Arkansas (inexact numeric rank)



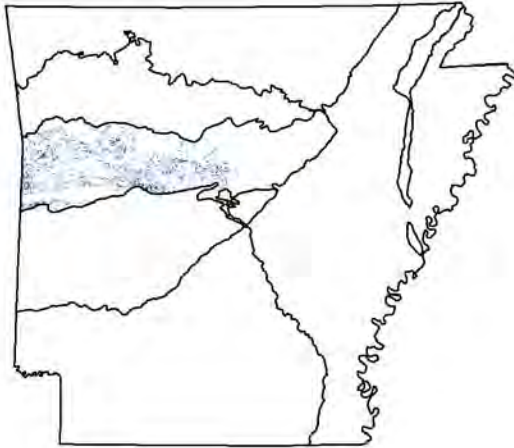
Distribution

Element Occurrence Records

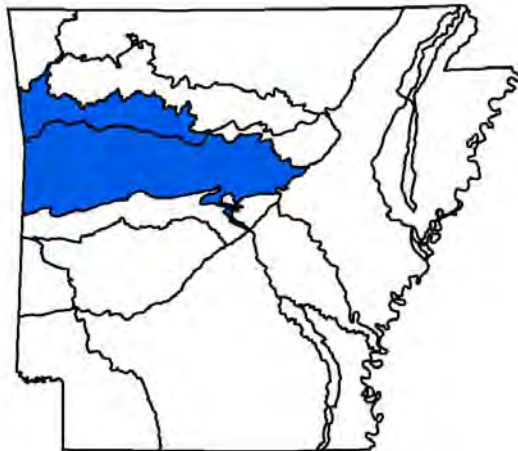
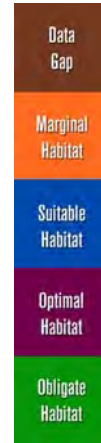


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Arkansas Valley - Arkansas River

Boston Mountains - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Riparian Suitable

Aquatic Habitats

Natural Riffle: - Small Suitable

Problems Faced

Threat: Sedimentation
Source: Resource extraction

Threat: Toxins/contaminants
Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance	Category
------------	----------

Medium	Data Gap
--------	----------

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic caddisfly known only from sites in Johnson and Washington Counties (Flint 1967).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Papaipema eryngii

Rattlesnake-Master Borer Moth

Class: Insecta
 Order: Lepidoptera
 Family: Noctuidae

Priority Score: **65** out of 100



Population Trend: Unknown

Global Rank: G1G2 — Critically imperiled (uncertain rank)

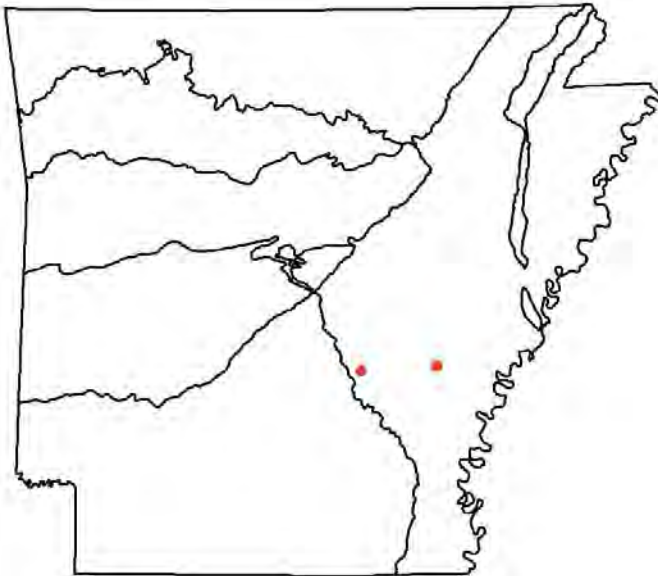
State Rank: S1 — Critically imperiled in Arkansas



Doug Zollner

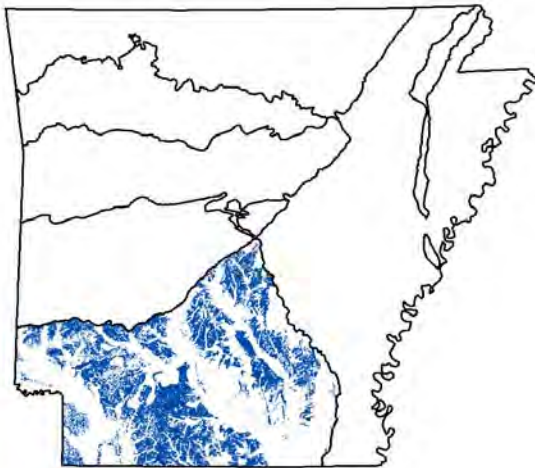
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Prairie and Woodland	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable

Weight

Problems Faced

KNOWN PROBLEM: Habitat fragmentation.

Threat: Habitat fragmentation
Source: Urban development

KNOWN PROBLEM: Habitat loss.

Threat: Habitat destruction or conversion
Source: Fire suppression

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance Category

Provide connectivity between habitats.	Medium	Habitat Restoration/Improvement
Restore savanna and prairie habitats with significant amounts of rattlesnake master plants.	High	Habitat Restoration/Improvement

Monitoring Strategies

Search appropriate habitat containing a substantial amount of Rattlesnake Master (*Eryngium yuccifolium*) at night (ideally after 11 p.m., when most adult moths are active) and when the temperature is over 10 degrees Celsius.

Comments

Available information suggests this species probably qualifies for G1, but some level of protection exists at extant sites, and some are well-managed (NatureServe 2015). About seven occurrences have been documented since 1990, but one may have been lost to fire. According to the U.S. Fish and Wildlife Service (2013), the Rattlesnake-Master Borer Moth is listed as a candidate species under the Endangered Species Act and is known or believed to occur in Arkansas in 2 counties: Pulaski and Jefferson. This species is not among the species of moths detected in moth surveys in northern Arkansas; the only species in the genus to be detected is *Papaipema furcate* (Drs. William Baltosser and Charles Ely, personal communication, 2015). Additionally, no individuals of this species were detected in extensive patches of Rattlesnake Master at the Terre Noire NA in Clark County during two evenings of surveys in mid-September 2013 (Drs. William Baltosser and Craig Rudolph, personal communication, 2015). Given the critically imperiled status of this species throughout its range, efforts to acquire more information on the distribution and status of the species in Arkansas are warranted.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Papilio joanae

Ozark Swallowtail

Class: Insecta

Order: Lepidoptera

Family: Papilionidae

Priority Score: **31** out of 100



Bill Baltosser

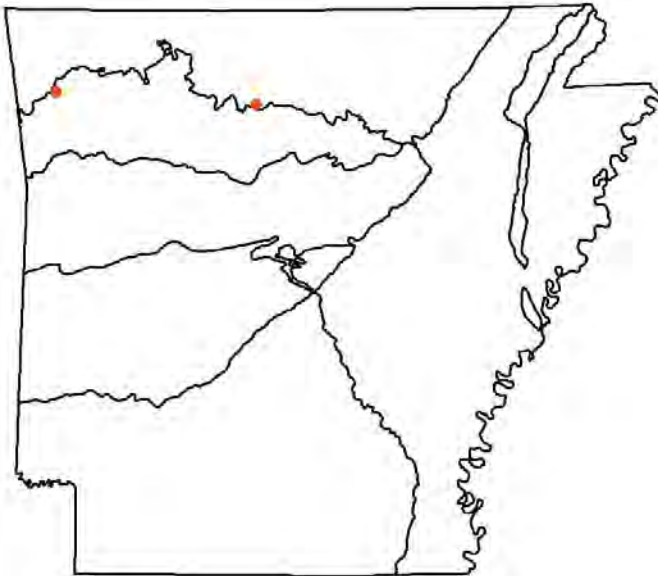
Population Trend: Unknown

Global Rank: G3 — Vulnerable species

State Rank: S2 — Imperiled in Arkansas

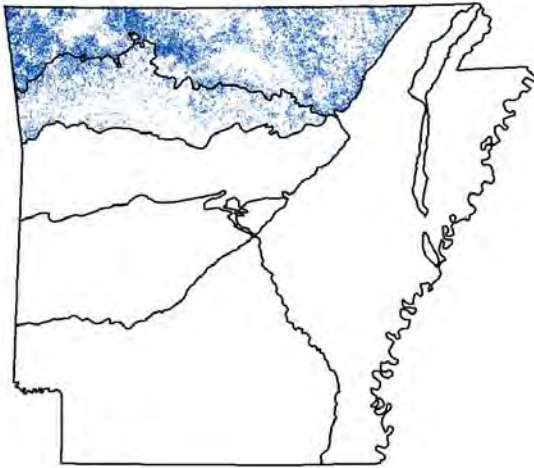
Distribution

Occurrence Records

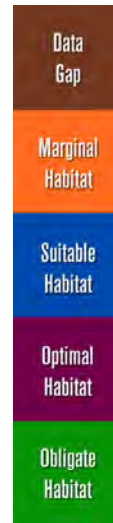


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Prairie and Woodland
 Pasture Land

Weight

Data Gap
 Suitable

Problems Faced

KNOWN PROBLEM: Loss of habitat.

Threat: Habitat destruction or conversion
 Source: Urban development

POTENTIAL PROBLEM: Increases in gypsy moth populations in the Ozarks are likely to bring on widespread spraying of insecticides, which will be detrimental to many non-target species such as this swallowtail.

Threat: Toxins/contaminants
 Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey cedar glades, various other openings, and sparsely wooded areas within Ozark dry forests to determine distribution and general abundance of this rare butterfly in Arkansas.

Comments

This swallowtail has a very restricted range and is apparently not a synonym of *Papilio polyxenes* (Black Swallowtail) in that recent mitochondrial DNA work by Felix Sperling shows these two taxa to be distinct species (NatureServe 2015). Heitzman and Heitzman (1996) describe the species as being found in cedar glades and woodlands in the Missouri Ozarks. They indicated that it probably has a wider range, but at the time of publication the species had not been found outside of Missouri. Spencer (2006) characterized the species as being “incredibly difficult” to distinguish from the Black Swallowtail and being rare and local in the Ozarks of Arkansas; found in 2 Arkansas counties (Baltosser et al. 2015). Schweitzer et al. (2011) assessment of the status of this butterfly is that it is local, but it was not considered to be especially rare in its range. There is disagreement with this statement, at least as it pertains to populations in Arkansas, because despite extensive efforts to locate this species along the Buffalo National River and vicinity, most individuals that are captured prove to be (> 95% of the time) Black Swallowtails and not Ozark Swallowtails (Dr. William Baltosser, personal communication, 2015). More animals need to be captured, examined, and most subsequently released to tease out the true status of the Ozark Swallowtail in the state.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Paraleptophlebia calcarica

Mayfly

Class: Insecta

Order: Ephemeroptera

Family: Leptophlebiidae

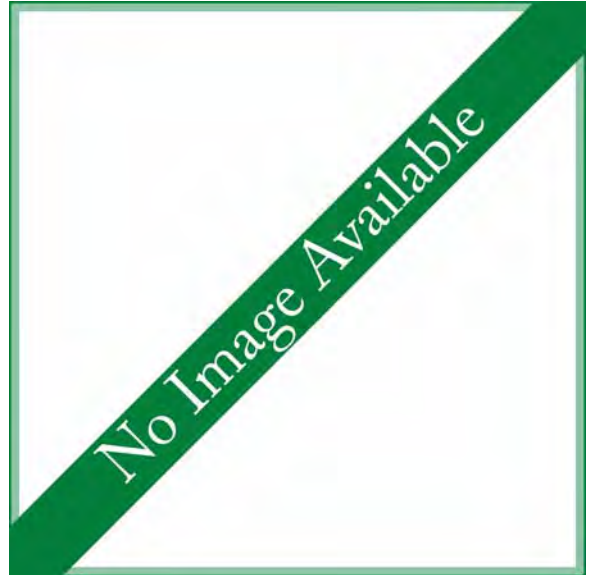
Priority Score: **65** out of 100



Population Trend: Unknown

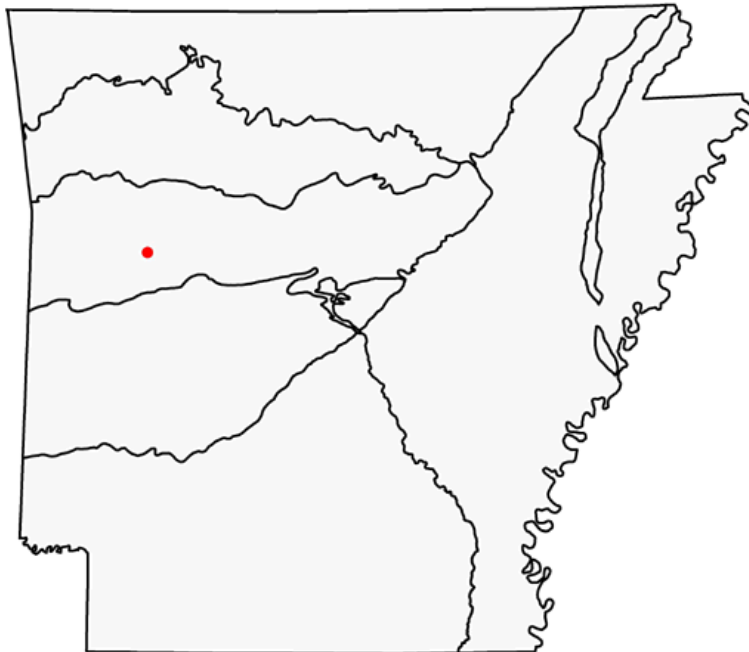
Global Rank: G1G2 — Critically imperiled (uncertain rank)

State Rank: S1? — Critically imperiled in Arkansas (inexact numeric rank)



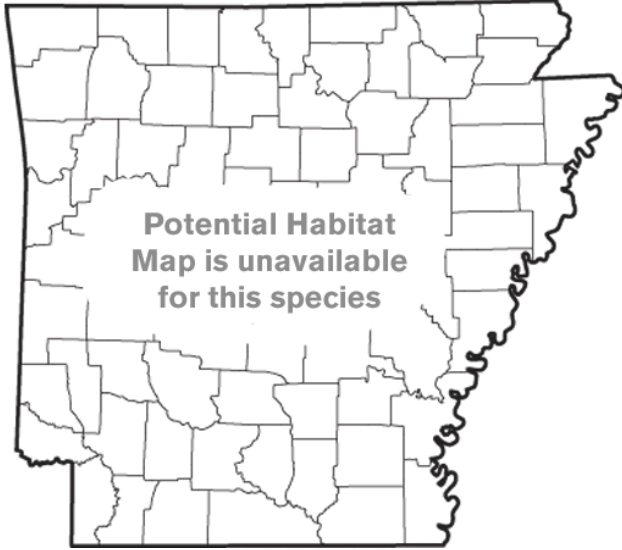
Distribution

Element Occurrence Records

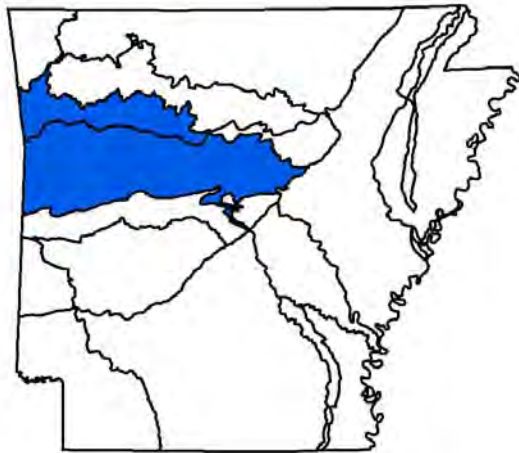


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Arkansas Valley - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Prairie and Woodland Suitable

Aquatic Habitats

Natural Other: - Small Suitable

Problems Faced

Threat: Sedimentation
Source: Forestry activities

Paraleptophlebia calcarica
Mayfly

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic mayfly known only from Gutter Rock Creek on Magazine Mountain in Logan County (Robotham Allen 1988).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Paucicalcaria ozarkensis

Microcaddisfly

Class: Insecta
 Order: Trichoptera
 Family: Hydroptilidae

Priority Score: **80** out of 100



Population Trend: Unknown

Global Rank: G1 — Critically imperiled species

State Rank: S1 — Critically imperiled in Arkansas



Distribution

Element Occurrence Records

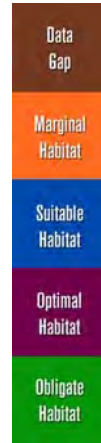


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Arkansas Valley - Arkansas River

Terrestrial Habitats

Ozark-Ouachita Prairie and Woodland Suitable

Aquatic Habitats

Natural Other: - Small Suitable

Problems Faced

Threat: Sedimentation
Source: Forestry activities

Paucicalcaria ozarkensis
Microcaddisfly

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

An endemic microcaddisfly known only from Gutter Rock Creek on Magazine Mountain in Logan County (Mathis and Bowles 1989).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Pentacora ouachita

Ouachita Shore Bug

Class: Insecta

Order: Heteroptera

Family: Saldidae

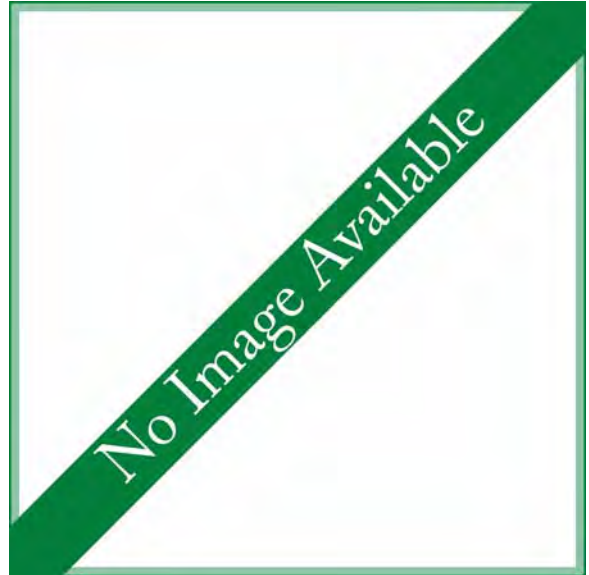
Priority Score: **23** out of 100



Population Trend: Unknown

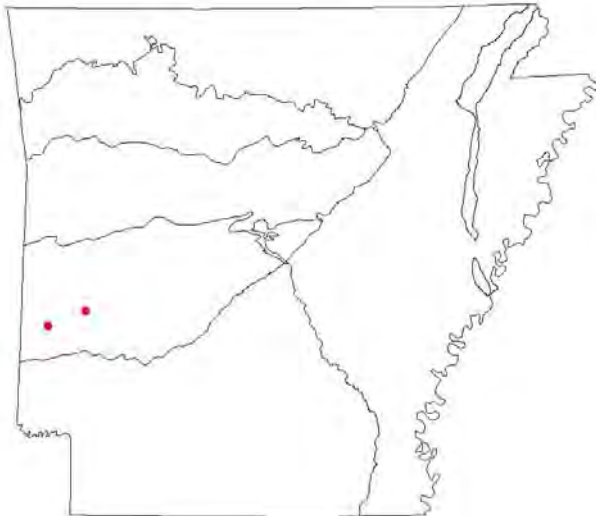
Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas



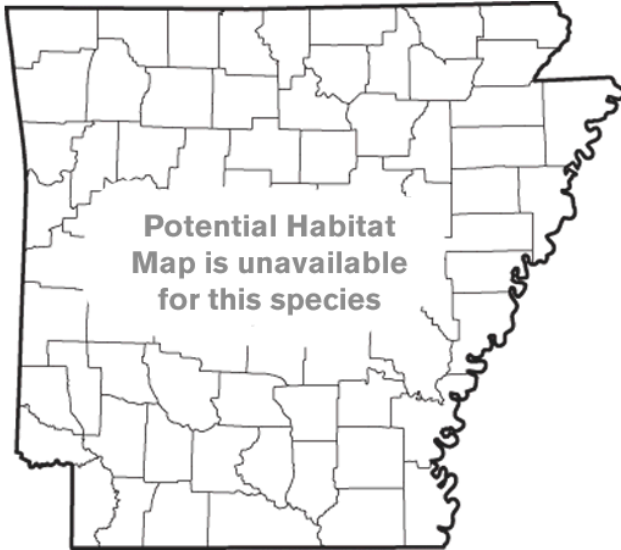
Distribution

Element Occurrence Records

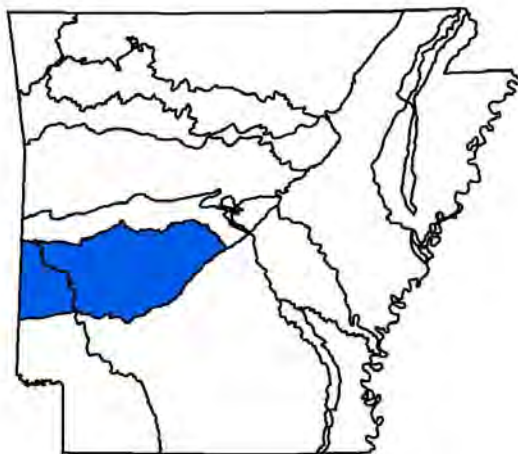


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Ecobasins

Ouachita Mountains - Ouachita River

Ouachita Mountains - Red River

Problems Faced

Threat: Sedimentation

Source: Resource extraction

Threat: Toxins/contaminants

Source: Municipal/Industrial point source

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys to locate additional populations and protection of stream habitats.

Comments

This insect is endemic to the Ouachita Mountains of Arkansas (Polhemus 1993).

Taxa Team and Peer Reviewers

ANHC Mr. Michael Warriner

Poanes viator

Broad-winged Skipper

Class: Insecta

Order: Lepidoptera

Family: Hesperidae

Priority Score: **15** out of 100



Population Trend: Unknown

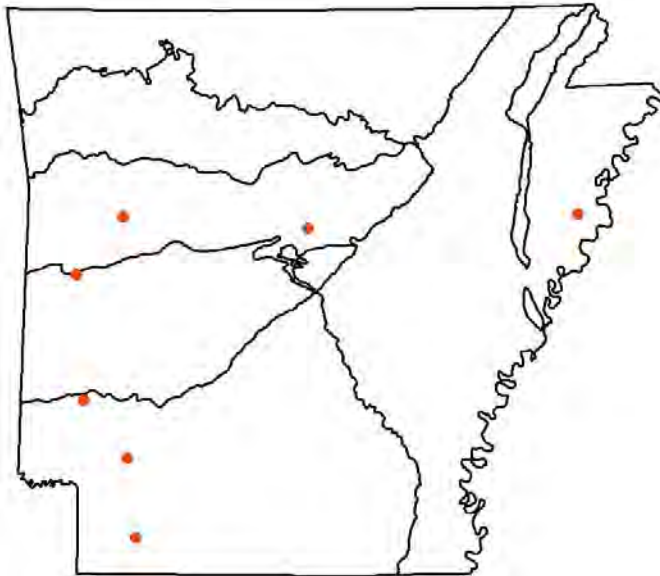
Global Rank: G5 — Secure

State Rank: S3 — Vulnerable in Arkansas



Distribution

Occurrence Records



Ecoregions where the species occurs:

Ozark Highlands

Boston Mountains

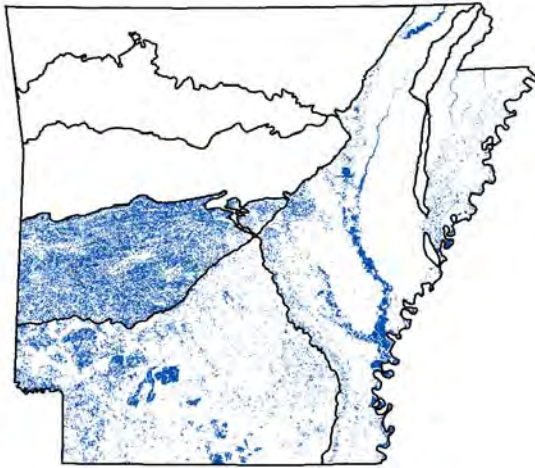
Arkansas Valley

Ouachita Mountains

South Central Plains

Mississippi Alluvial Plain

Mississippi Valley Loess Plain



Habitat Map



Habitats

Lower Mississippi River Riparian Forest	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
Pasture Land	Suitable
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland	Suitable

Weight

Problems Faced

KNOWN PROBLEM: Loss of habitat.

Threat: Hydrological alteration
Source: Water diversion

KNOWN PROBLEM: Loss of habitat.

Threat: Habitat destruction or conversion
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey wetlands with tall grass, particularly Phragmites, for this and other rare species.

Comments

Spencer (2006) describes the habitat of this species as being wetlands with tall grass, with individuals being rare to locally common; when found generally in wetlands of southeastern Arkansas. To underscore the apparent rarity of the species in Arkansas, Dr. Craig Rudolph (personal communication, 2015) states that the species is "rare on the Coastal Plain of Arkansas, as is the case in eastern Texas", he having recorded it from only Howard County. Dr. William Baltosser has similar experience with the species with only a single record from an area near Waldron in Scott County. Records depicted by Raney (2012) include additional counties to the east and bring the total to 9 Arkansas counties of occurrence (Baltosser et al. 2015). Given what appears to be a very rare species in Arkansas, efforts to acquire more information on the distribution and status of the species in Arkansas are warranted.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Poanes yehl

Yehl Skipper

Class: Insecta
 Order: Lepidoptera
 Family: Hesperiidae

Priority Score: **23** out of 100



Population Trend: Unknown

Global Rank: G4 — Apparently secure species

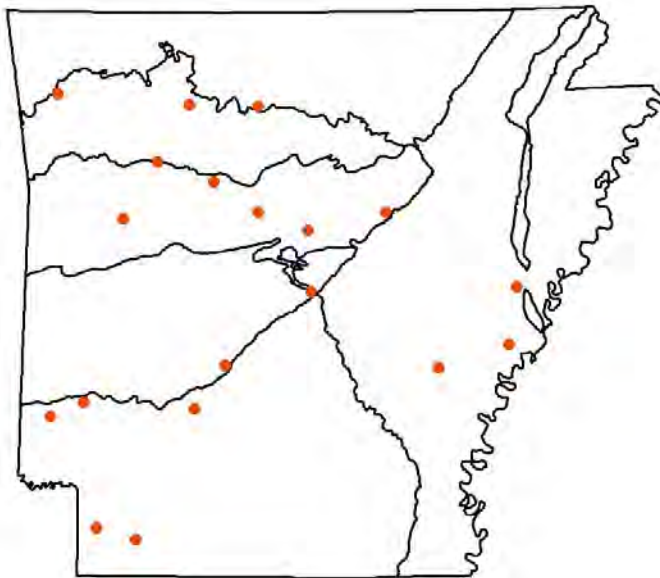
State Rank: S1S3 — Critically imperiled in Arkansas (uncertain rank)



Norman Lavers

Distribution

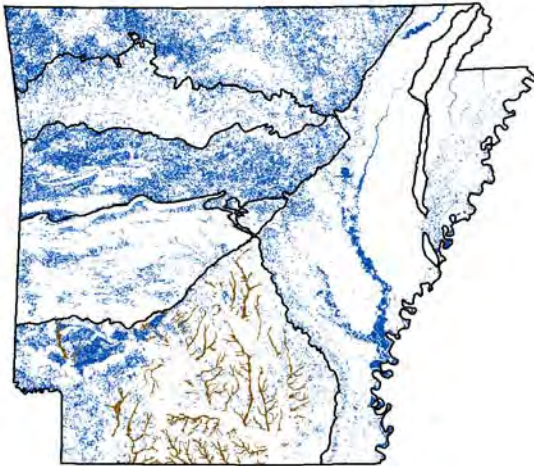
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Large Floodplain	Suitable
Ozark-Ouachita Riparian	Suitable
Pasture Land	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable
West Gulf Coastal Plain Small Stream/River Forest	Data Gap

Weight

Problems Faced

KNOWN PROBLEM: Clearing and draining of bottomland forests have greatly reduced the available habitat for this species.

Threat: Habitat destruction or conversion
Source: Conversion of riparian forest

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas in moist or swampy woods for this and other rare species.

Comments

NatureServe (2015) states that the food plant of this species is not known but is certainly grasses. March Minno (personal comment to Schweitzer, 2004) suggests the genus *Chasmanthium* seems likely and that this skipper does not appear to be associated with canes as previously thought. This species has been reported from 22 Arkansas counties (Baltosser et al. 2015) and has been found (locally common) at several localities in northern Arkansas and in blackland woodland in more southern regions of the state (Dr. William Baltosser, personal communication, 2015). Drs. Rudolph and Ely (personal communication, 2015) indicate that the species is never common, but they have recorded it from 7 counties in the Ouachita Mountains and Coastal Plain in extreme SW Arkansas. More information on the status of this species is needed before considering any change in ranking with regard to priority score.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Polygonia progne

Gray Comma

Class: Insecta
 Order: Lepidoptera
 Family: Nymphalidae

Priority Score: **19** out of 100



Population Trend: Unknown

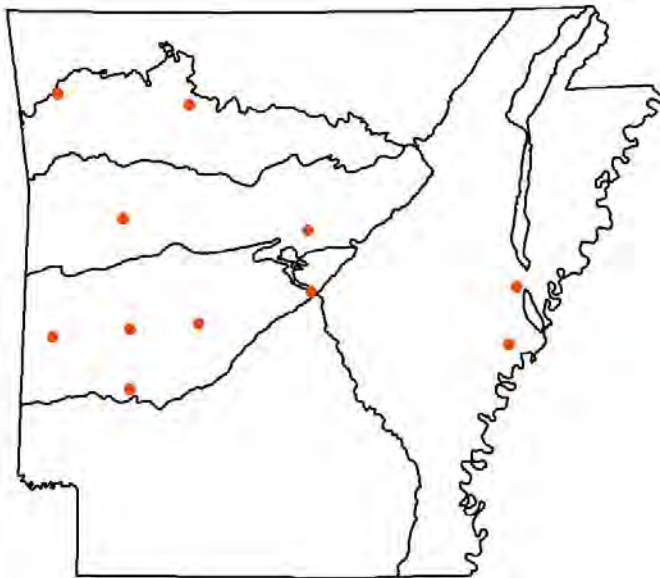
Global Rank: G4G5 — Apparently secure (uncertain rank)

State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



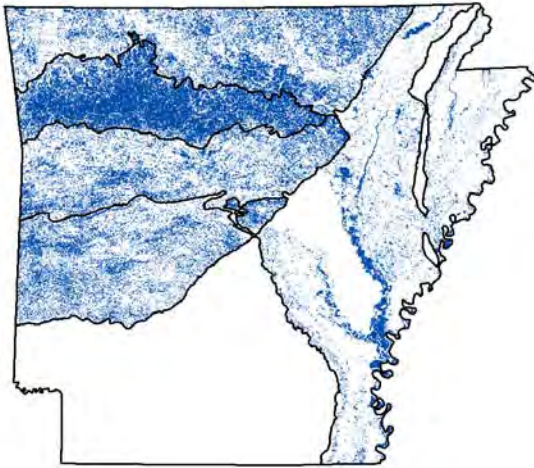
Distribution

Occurrence Records

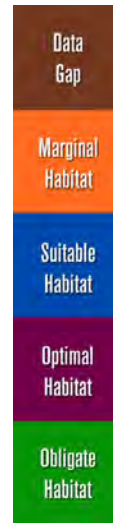


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Lower Mississippi Flatwoods Woodland and Forest	Suitable
Lower Mississippi River High Bottomland Forest	Suitable
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Large Floodplain	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Ozark-Ouachita Riparian	Suitable
West Gulf Coastal Plain Pine-Hardwood Forest/Woodland	Suitable
West Gulf Coastal Plain Small Stream/River Forest	Suitable

Weight

Data Gaps/Research Needs

Determine habitat requirements.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey a variety of forest types to monitor the status of this species.

Comments

This species historically declined or disappeared in much of the southeastern portion of its range, and this was due in large part, or perhaps entirely, to deliberate efforts to eradicate the foodplant (*Ribes* spp.), which is an alternative host for white pine rust fungus (NatureServe 2015). Over the course of the last several years, Drs. Baltosser, Rudolph, and Ely have come to the same conclusion; this species is never common. Collectively, these investigators have 10 records from 4 counties. Habitat requirements and most other aspects of the biology of this species in Arkansas are poorly known even though it has been recorded from 15 Arkansas counties (Baltosser et al. 2015). This is a species that should be monitored if habitats are to be altered and be among the species tracked when any Lepidoptera studies within suitable habitat are undertaken.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Problema byssus

Byssus Skipper

Class: Insecta
 Order: Lepidoptera
 Family: HesperIIDae

Priority Score: **23** out of 100



Population Trend: Unknown

Global Rank: G3G4 — Vulnerable (uncertain rank)

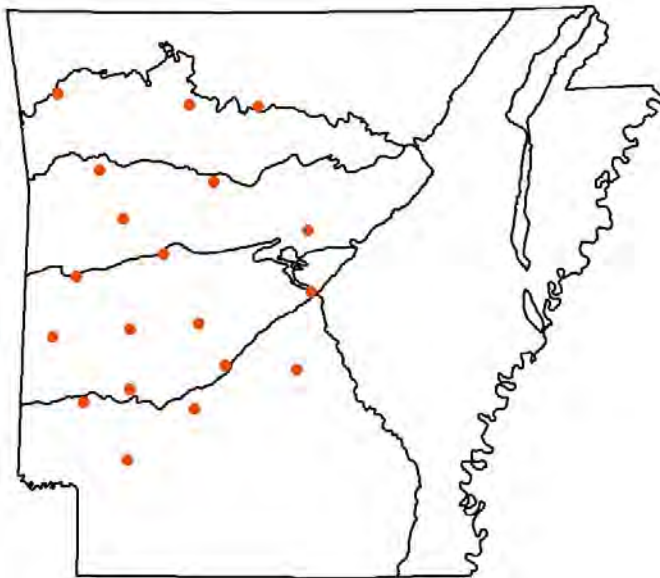
State Rank: S3 — Vulnerable in Arkansas



©Herschel Raney

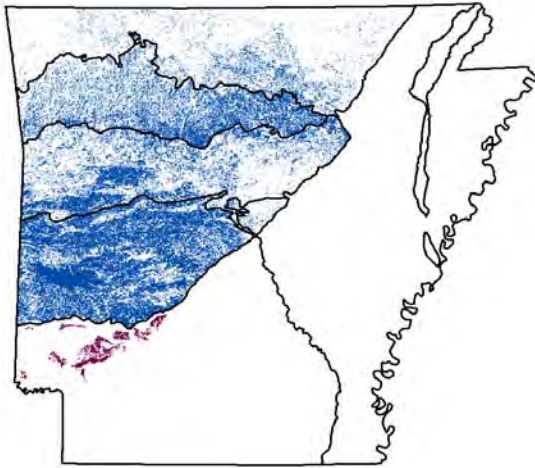
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Large Floodplain	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Ozark-Ouachita Prairie and Woodland	Optimal
Ozark-Ouachita Riparian	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Optimal

Weight

Problems Faced

Habitat destruction.

Threat: Habitat destruction or conversion
Source: Commercial/industrial development

Data Gaps/Research Needs

Need a thorough survey of the Ozark, West Gulf Coastal Plain, and Ouachita regions to locate additional populations of this and other rare species in the state.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey a variety of habitats of known occurrence to monitor the status of this species.

Comments

NatureServe (2015) states that the species is local in all parts of its range and notes that several states track this skipper with nearly all considering it to be very rare to rare to uncommon; the single exception (Wisconsin) ranks it as extremely rare. This skipper is considered a prairie-dependent species in the Midwest by Opler and Malikul (1998). Within Arkansas, this skipper has been recorded from 23 Arkansas counties (Baltosser et al. 2015). Present but rare in surveys of Lepidoptera along the Buffalo National River, in tallgrass prairies in the Arkansas Valley, and in surveys of blackland woodland habitats in more southern localities (Dr. William Baltosser, personal communication, 2015). Considered fairly regular in some areas of the Ouachita Mountains (Drs. Craig Rudolph and Charles Ely, personal communication, 2015). The species in Arkansas should continue to be monitored for occurrences and ultimately for population trends.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Pseudactium magazinensis

Ouachita Pseudactium

Class: Insecta

Order: Coleoptera

Family: Pselaphidae

Priority Score: **23** out of 100



Population Trend: Unknown

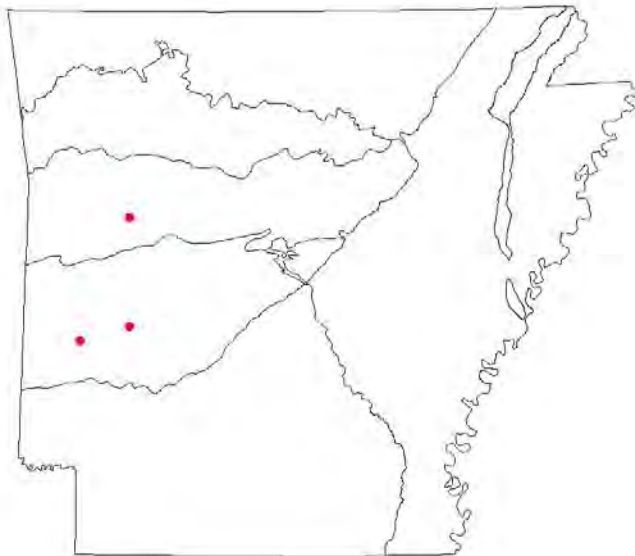
Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas



Distribution

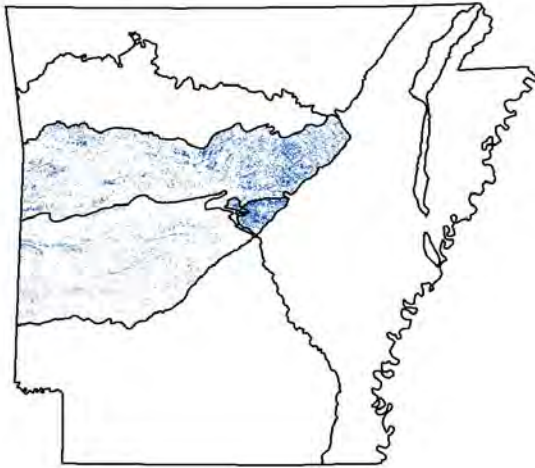
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Dry-Mesic Oak Forest

Weight

Suitable

Ozark-Ouachita Mesic Hardwood Forest

Suitable

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

No information available.

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Pseudactium magazinensis
Ouachita Pseudactium

Pseudactium ursum

Ozark Pseudactium

Class: Insecta

Order: Coleoptera

Family: Pselaphidae

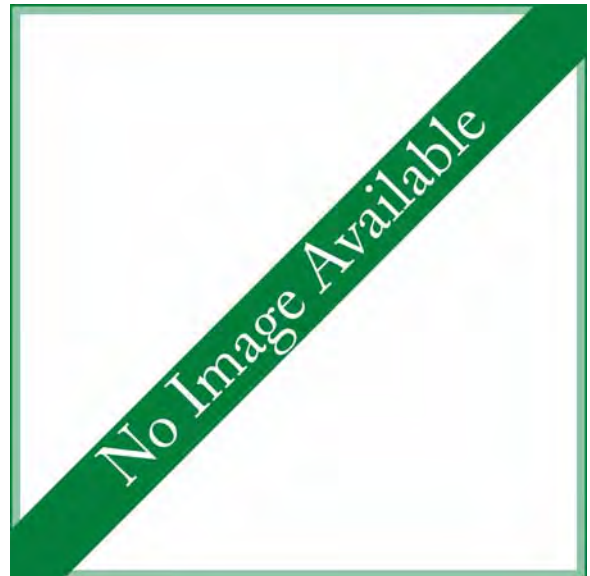
Priority Score: **23** out of 100



Population Trend: Unknown

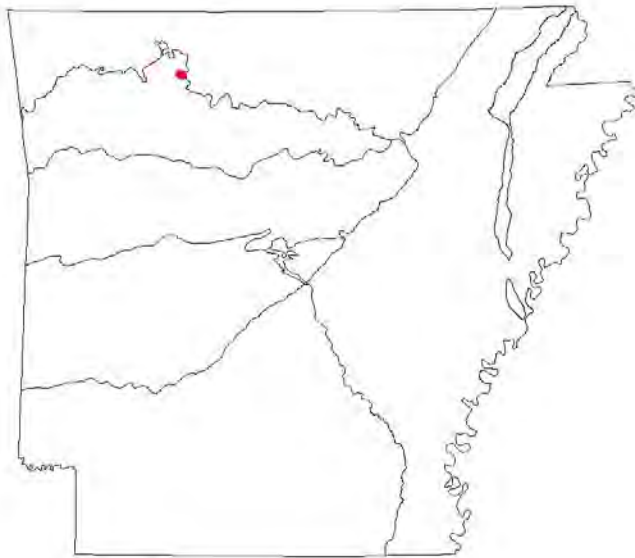
Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas



Distribution

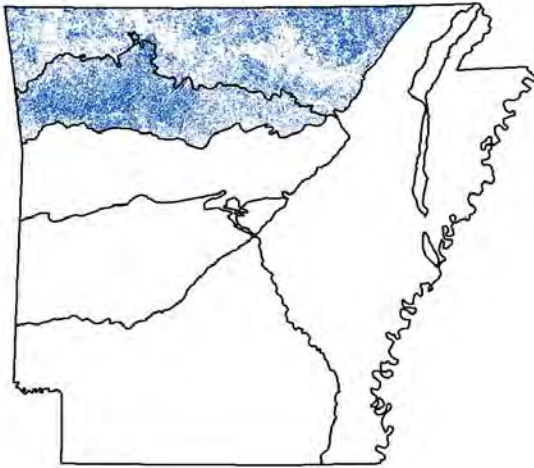
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Dry-Mesic Oak Forest

Weight

Suitable

Ozark-Ouachita Mesic Hardwood Forest

Suitable

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium

Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

No information available.

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Pseudactium ursum
Ozark Pseudactium

Rhadine ozarkensis

Ground Beetle

Class: Insecta

Order: Coleoptera

Family: Carabidae

Priority Score: **80** out of 100



Population Trend: Unknown

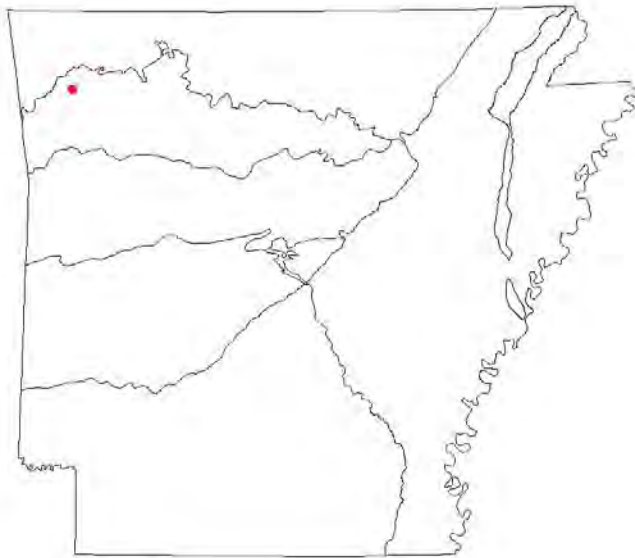
Global Rank: GH — Possibly extinct

State Rank: SH — Historic record. Possibly extirpated in Arkansas



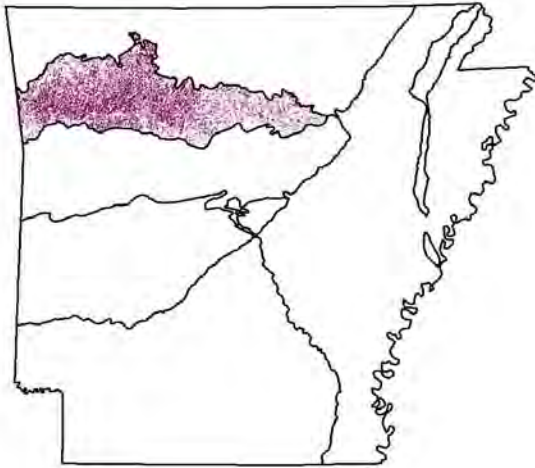
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Caves, Mines, Sinkholes and other Karst Features

Weight

Optimal

Problems Faced

Disturbance of cave habitats.

Threat: Habitat destruction or conversion
Source: Recreation

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An endemic beetle known Fincher Cave in Washington County (Sanderson and Miller 1941). This species was reportedly collected at Steel Creek Recreation area at the Buffalo National River in 2013 (A. Dowling, pers. Comm).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Rhadine ozarkensis
Ground Beetle

Satyrium favonius ontario

Oak Hairstreak

Class: Insecta
 Order: Lepidoptera
 Family: Lycaenidae

Priority Score: **19** out of 100



Population Trend: Unknown

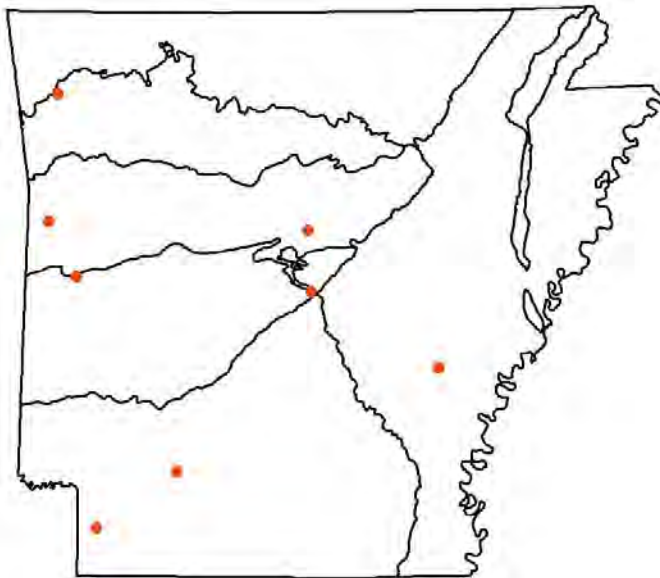
Global Rank: G4T4 — Apparently secure (apparently secure subspecies)

State Rank: S3 — Vulnerable in Arkansas



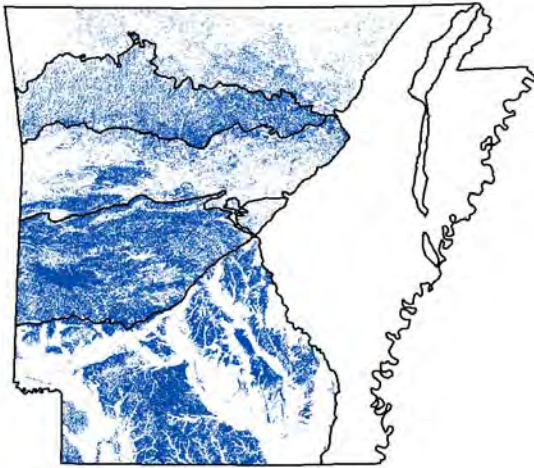
Distribution

Occurrence Records

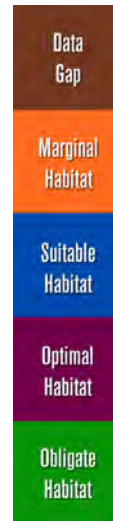


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Lower Mississippi River High Bottomland Forest	Suitable
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland	Suitable

Weight

Problems Faced

POTENTIAL PROBLEM: Insecticide use for gypsy moths.

Threat: Toxins/contaminants
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys should be conducted in appropriate habitat to assess the current status of this species in Arkansas.

Comments

Taxonomy and nomenclature of this butterfly somewhat confusing. For example, southern populations were previously considered to be a species separate from more northern and western butterflies, which were called *Satyrrium favonius ontario*, the Northern Hairstreak (Opler and Malikul 1998). More recent works (Opler et al. 2010) list *S. favonius* as the Southern Hairstreak and *S. favonius ontario* as the "Northern" Southern Hairstreak. Spenser (2006) uses yet another name "Oak Hairstreak" to refer to *S. f. ontario*. Nomenclature aside, Spenser (2006) lists this butterfly as being uncommon statewide. Drs. Craig Rudolph and Charles Ely (personal communication, 2015) have records for only 2 Arkansas counties (Scott and Sebastian, each of single individuals). Collectively, the species has been reported from 16 Arkansas counties (Baltosser et al. 2015). More information needed to better gauge the current status and distribution of this species in Arkansas.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Satyrium kingi

King's Hairstreak

Class: Insecta
 Order: Lepidoptera
 Family: Lycaenidae

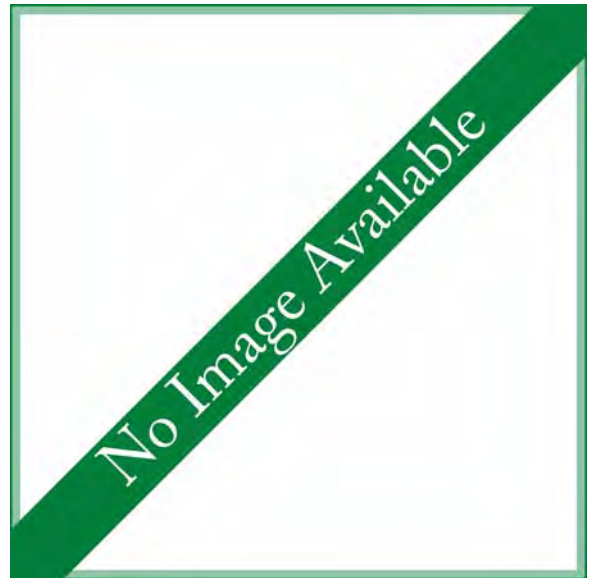
Priority Score: **27** out of 100



Population Trend: Unknown

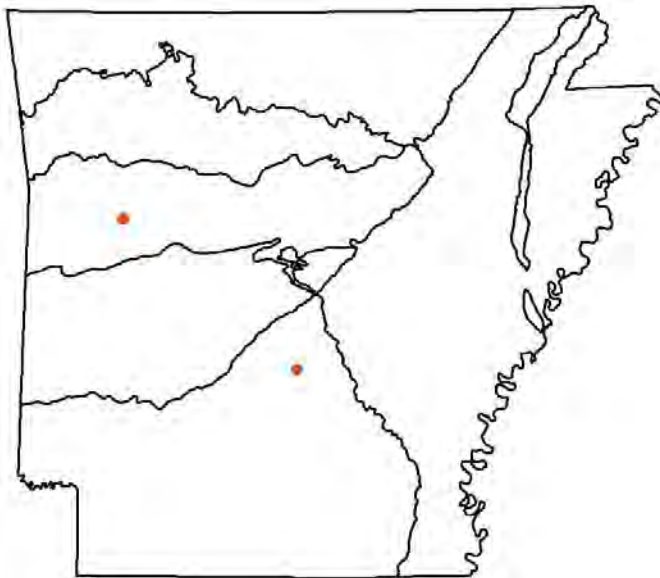
Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S2 — Imperiled in Arkansas



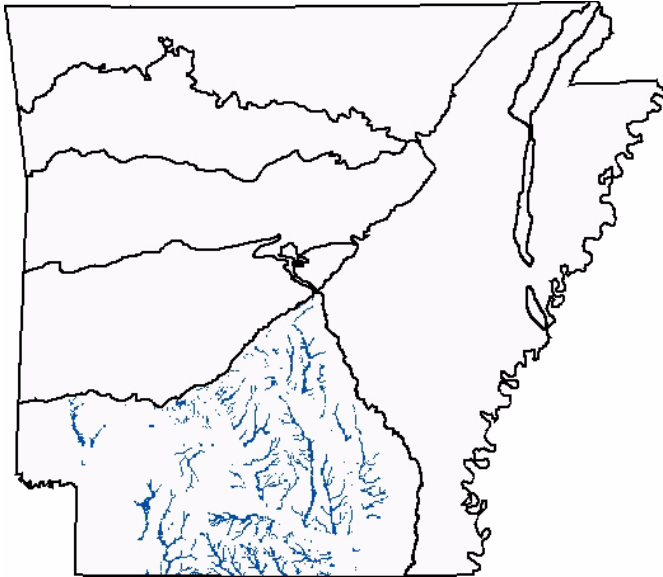
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

West Gulf Coastal Plain Pine-Hardwood Forest/Woodland

Weight

Suitable

Problems Faced

KNOWN PROBLEM: Habitat loss and degradation.

Threat: Habitat destruction or conversion
Source: Conversion of riparian forest

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Surveys should be conducted at all known localities where the larval host plant occurs to determine distribution and general abundance of this rare butterfly in Arkansas.

Comments

King's Hairstreak is limited in both its larval host preference of common sweetleaf (*Symplocos tinctoria*) and in the only two nectaring sources for the species: Allegheny chinquapin (*Castanea pumila*) and sourwood (*Oxydendrum arboreum*). Associated with hardwood hammocks and wooded swamp edges (Opler and Malikul 1998). Several species in the genus *Satyrrium* can be difficult to distinguish in the field. King's Hairstreak is probably most easily confused with the Striped Hairstreak (*S. liparops*) and to a somewhat lesser extent with the Banded Hairstreak (*S. calanus*). Given this potential source of confusion and the uncommonness of the latter and the apparent localized occurrence and rarity of *S. kingi* (records for only 2 Arkansas counties; Baltosser et al. 2015) and *S. liparops*, few data are available. See NatureServe (2015) for information, but clearly more should be done to clarify the status of this localized and rare species.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Scaphinotus inflectus

Ground Beetle

Class: Insecta

Order: Coleoptera

Family: Carabidae

Priority Score: **23** out of 100



Population Trend: Unknown

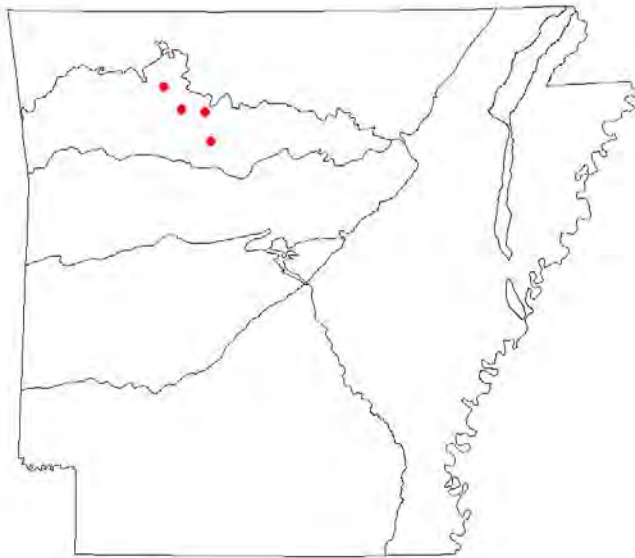
Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas



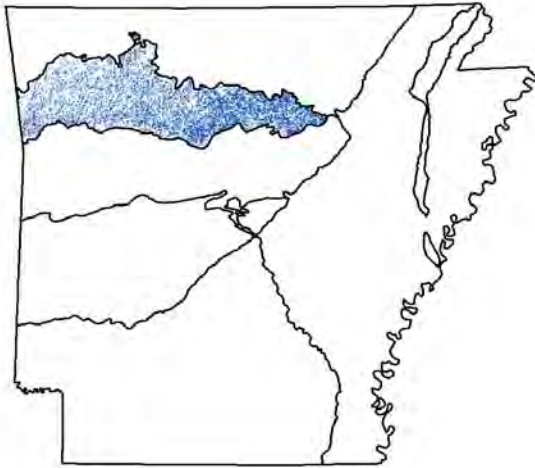
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Mesic Hardwood Forest
 Ozark-Ouachita Pine-Oak Forest

Weight

Optimal
 Suitable

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
 Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An endemic beetle once known only from Natural Bridge Recreation Area in Newton County (Allen and Carlton 1988). The species was collected in 2013 at the Steel Creek Recreation Area on the Buffalo National River (A. Dowling, pers. comm.).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Scaphinotus parisiiana

Ground Beetle

Class: Insecta

Order: Coleoptera

Family: Carabidae

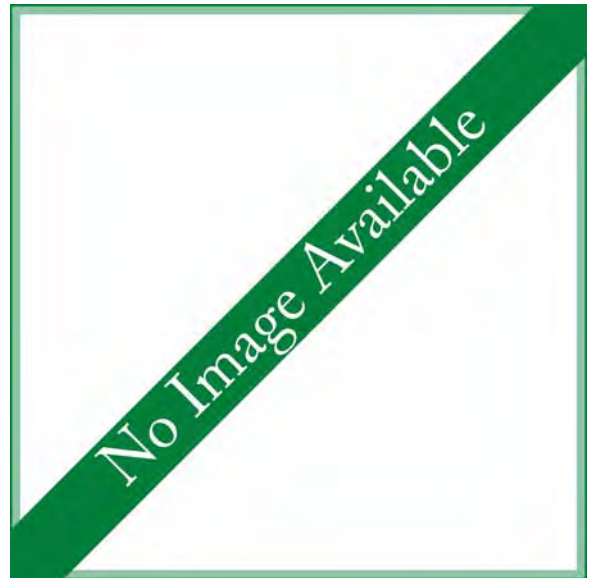
Priority Score: **23** out of 100



Population Trend: Unknown

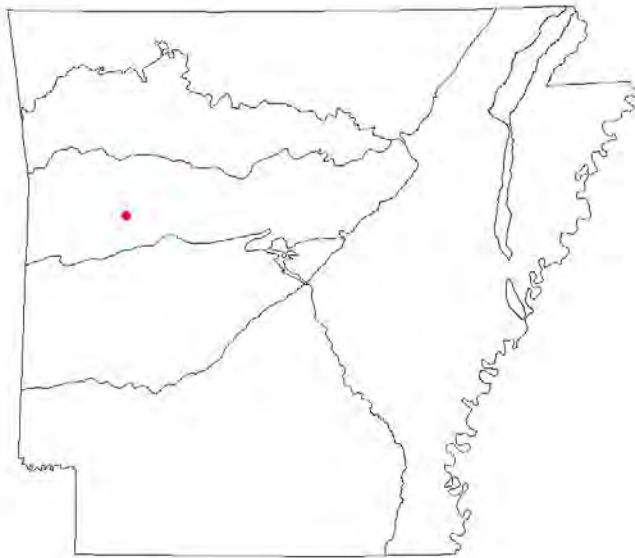
Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas



Distribution

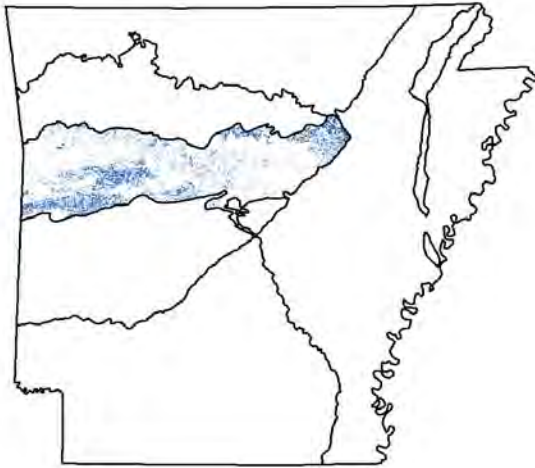
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Mesic Hardwood Forest
 Ozark-Ouachita Pine-Oak Forest

Weight

Optimal
 Suitable

Problems Faced

Forestry practices that disturb litter layer and create xeric conditions.

Threat: Habitat disturbance
 Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey areas near known occurrences to locate additional populations.

Comments

An endemic beetle known only from Logan and Washington Counties (Allen and Carlton 1988).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Schinia indiana

Indiana Phlox Moth

Class: Insecta
 Order: Lepidoptera
 Family: Noctuidae

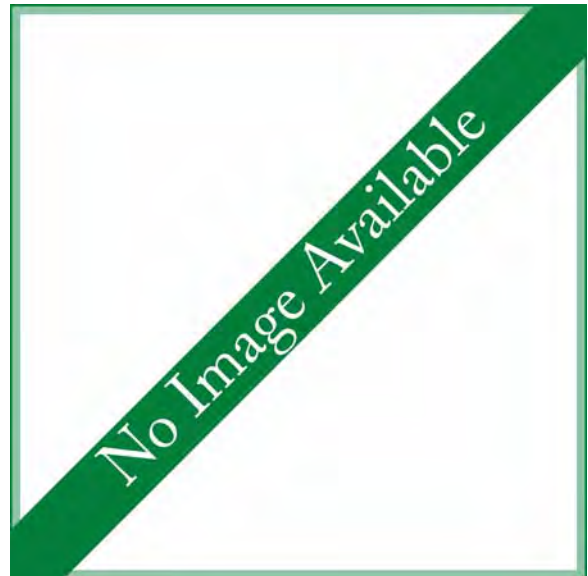
Priority Score: **38** out of 100



Population Trend: Unknown

Global Rank: G2G4 — Imperiled (uncertain rank)

State Rank: SH — Historic record. Possibly extirpated in Arkansas



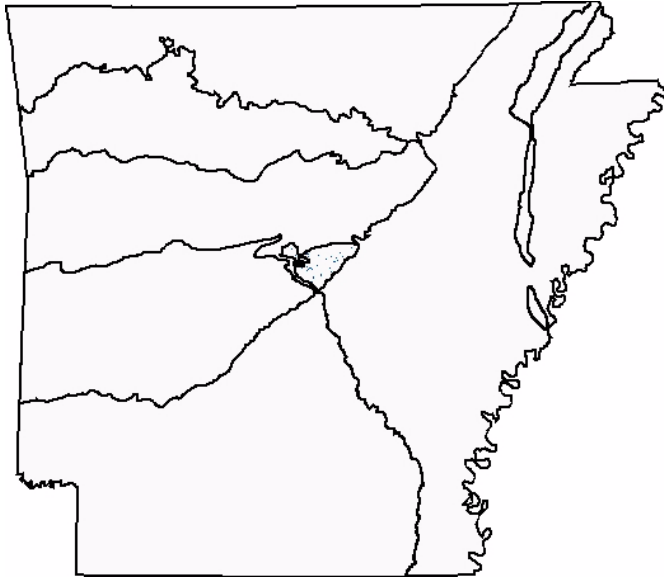
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland

Weight

Suitable

Problems Faced

KNOWN PROBLEM: Habitat loss.

Threat: Habitat destruction or conversion
Source: Commercial/industrial development

POTENTIAL PROBLEM: Herbicide use along roadsides.

Threat: Toxins/contaminants
Source: Road construction

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance Category

Suspend application of herbicides where this species occurs.

High

Threat Abatement

Monitoring Strategies

Survey for additional populations and monitor known occurrences.

Comments

A prairie/savanna species strongly associated with *Phlox pilosa* (Hodges and others 1983, Schweitzer 1989). Look for this species on *Phlox pilosa* flowers on cloudy, cool days. Available information suggests this species is imperiled, but there is considerable uncertainty about its status, especially in the southern parts of its range (NatureServe 2015). The only *Schinia* identified to date from on-going moth surveys being conducted along the Buffalo National River are the Arcigera Flower Moth (*S. arcigera*), Thoreau's Flower Moth (*S. thoreaui*), Three-lined Flower Moth (*S. trifascia*), and Goldenrod Flower Moth (*S. nundina*); (Drs. William Baltosser and Charles Ely, personal communication, 2015). Continuation of on-going and related studies is required if information on the status and distribution of the Indiana Phlox (Flower) Moth is to be resolved.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Somatochlora ozarkensis

Ozark Emerald

Class: Insecta
 Order: Odonata
 Family: Corduliidae

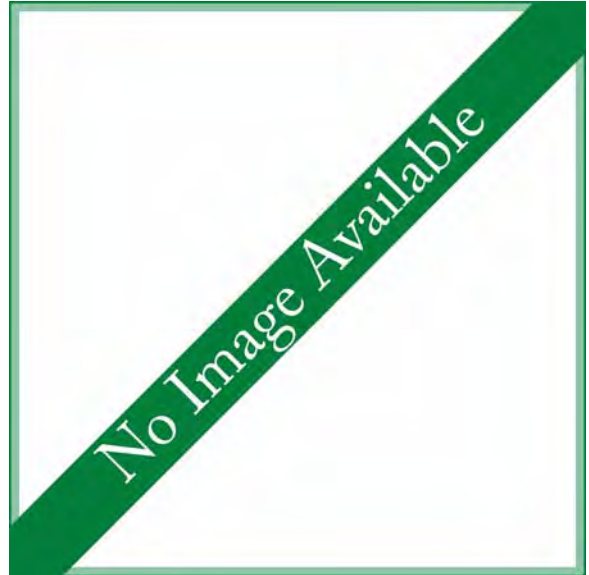
Priority Score: **34** out of 100



Population Trend: Stable

Global Rank: G3 — Vulnerable species

State Rank: S1 — Critically imperiled in Arkansas



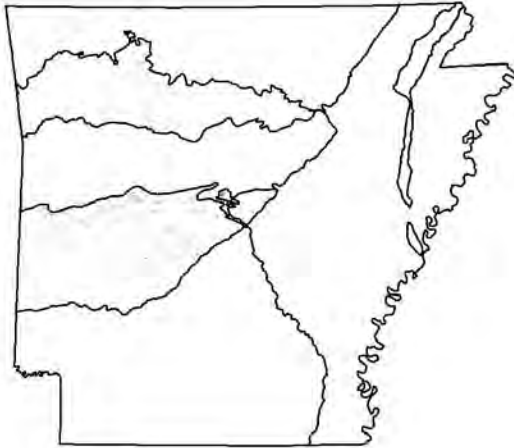
Distribution

Element Occurrence Records

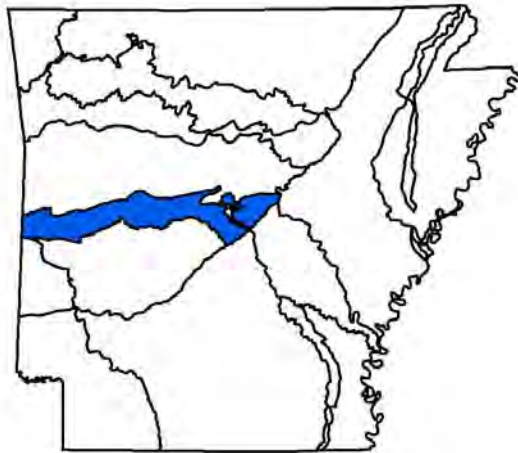
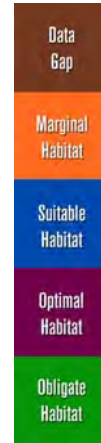


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plains



Terrestrial Habitats



Ecobasins where this species occurs

Terrestrial Habitats

Ozark-Ouachita Forested Seep	Suitable
Ozark-Ouachita Large Floodplain	Data Gap
Ozark-Ouachita Riparian	Optimal

Problems Faced

Threat: Habitat destruction or conversion
Source: Forestry activities

Threat: Habitat destruction or conversion
Source: Urban development

Threat: Toxins/contaminants
Source: Agricultural practices

Data Gaps/Research Needs

More information is needed on the specie's ecology and behavior.

Surveys are needed to determine distribution and abundance.

Conservation Actions

Protect riparian habitat.

Importance Category

High

Habitat Protection

Monitoring Strategies

Conduct surveys in appropriate habitats on the National Forests.

Comments

The Ozark Emerald is known from the Ouachita and Ozark Mountain ecoregions. The species requires perennial streams with woodland canopy cover. (Paulson and Dunkle 1999)

Taxa Team and Peer Reviewers

Xerces Society Ms. Michele Blackburn, Dr. John Abbott, Mr. Scott Black, Dr. Celeste Searles Mazzacano and Mr. Dennis Paulson

Lucanus elaphus

Giant Stag Beetle

Class: Insecta

Order: Coleoptera

Family: Lucanidae

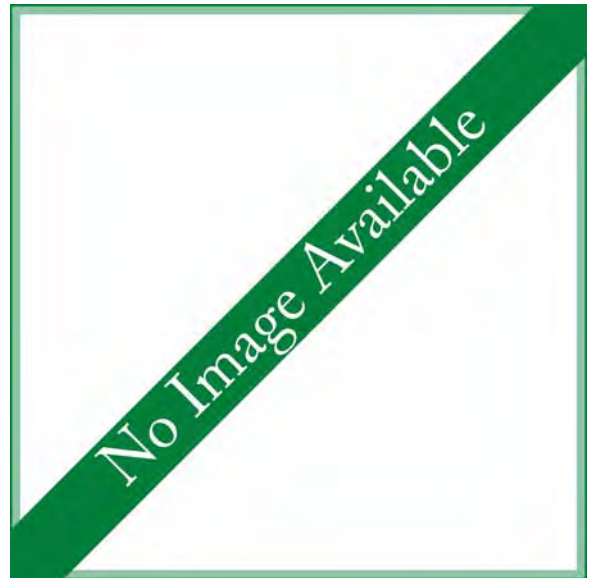
Priority Score: **25** out of 100



Population Trend: Unknown

Global Rank: G3G5 — Vulnerable (uncertain rank)

State Rank: S2 — Imperiled in Arkansas



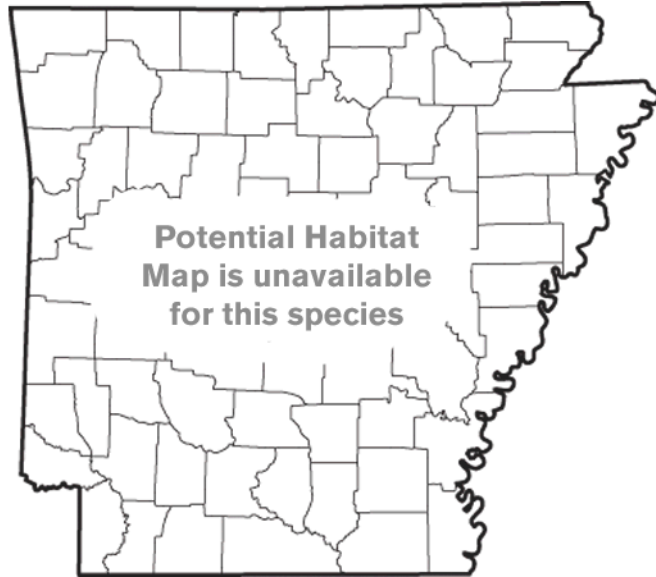
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Lower Mississippi River High Bottomland Forest	Suitable
Lower Mississippi River Low Bottomland Forest	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable
West Gulf Coastal Plain Mesic Hardwood Forest	Suitable
West Gulf Coastal Plain Pine-Hardwood Forest	Suitable

Weight

Problems Faced

Forestry practices that reduce number of large, dead trees.

Threat: Resource depletion
Source: Forestry activities

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Survey forest stands to locate additional populations of this species.

Comments

A large beetle species dependent upon large pieces of decaying wood as larval host sites (Staines 2001).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Speyeria diana

Diana

Class: Insecta
 Order: Lepidoptera
 Family: Nymphalidae

Priority Score: **25** out of 100



Population Trend: Unknown

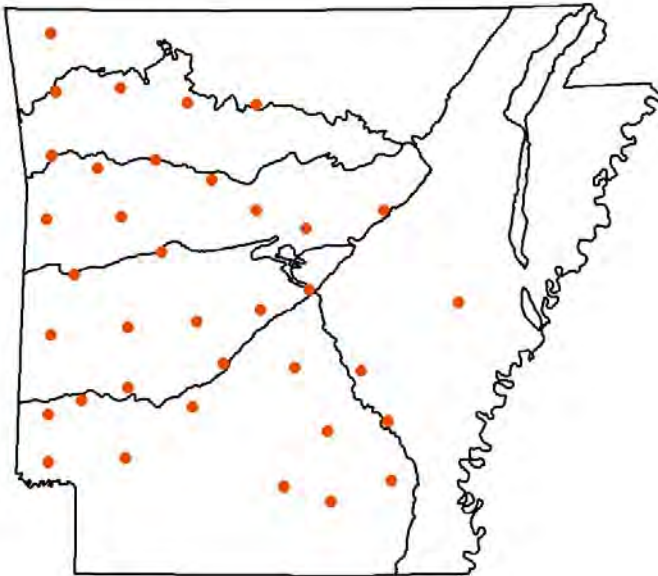
Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



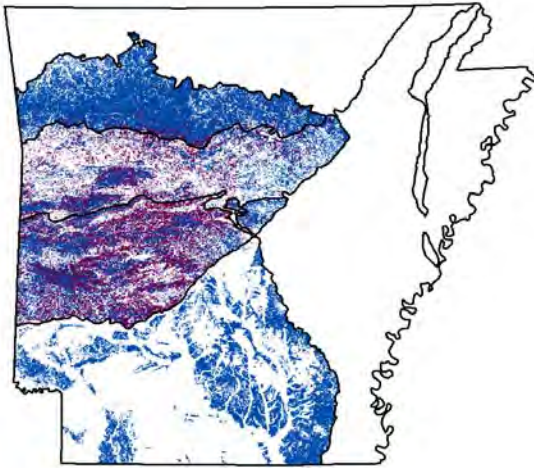
Distribution

Occurrence Records

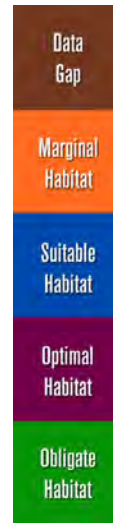


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Interior Highlands Calcareous Glade and Barrens	Suitable
Interior Highlands Dry Acidic Glade and Barrens	Suitable
Lower Mississippi Flatwoods Woodland and Forest	Suitable
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable
Ozark-Ouachita Pine-Bluestem Woodland	Optimal
Ozark-Ouachita Pine-Oak Forest/Woodland	Optimal
Ozark-Ouachita Prairie and Woodland	Optimal
Ozark-Ouachita Riparian	Optimal
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable
West Gulf Coastal Plain Pine-Hardwood Flatwoods	Suitable

Weight

Problems Faced

KNOWN PROBLEM: Habitat loss and degradation.

Threat: Habitat destruction or conversion
 Source: Forestry activities

Data Gaps/Research Needs

Need surveys to assess population status in areas of known occurrence.

Conservation Actions

Importance Category

More data are needed to determine conservation actions. Medium Data Gap

Monitoring Strategies

Find areas that females are utilizing to lay eggs and where the larvae overwinter and feed.

Comments

Even though Baltosser (2007) found the Diana to still occur in 28 Arkansas counties (some historical sites in northwest Arkansas no longer occupied), with additional counties added since (species documented to occur in 41 Arkansas counties, Baltosser et al. 2015), the species continues to warrant attention. Most land-management agencies are aware of the overall habitat gestalt preferred by this species (fire-maintained communities, see Rudolph et al. 2006). However, such habitats will not support viable populations unless there is an uninterrupted continuum of high-quality nectar supplies from mid-May through at least September (Drs. William Baltosser, Craig Rudolph, and Charles Ely, personal communication, 2015). The propensity of this species to avoid crossing large open areas is also of concern in that habitat fragmentation is widespread, which can restrict movement and further isolate the many small metapopulations that comprise nearly all Diana populations in Arkansas. The former, coupled with the fact that the species remains a highly sought-after species prized by individuals and professional collectors from throughout the world, argues for continued oversight.

Taxa Association Team and Peer Reviewers

UALR Dr. William Baltosser, ANHC Ms. Samantha Scheiman, USFS Dr. Craig Rudolph, and Dr. Charles Ely

Tetraloniella albata

Anthophorid Bee

Class: Insecta
 Order: Hymenoptera
 Family: Anthophoridae

Priority Score: **23** out of 100



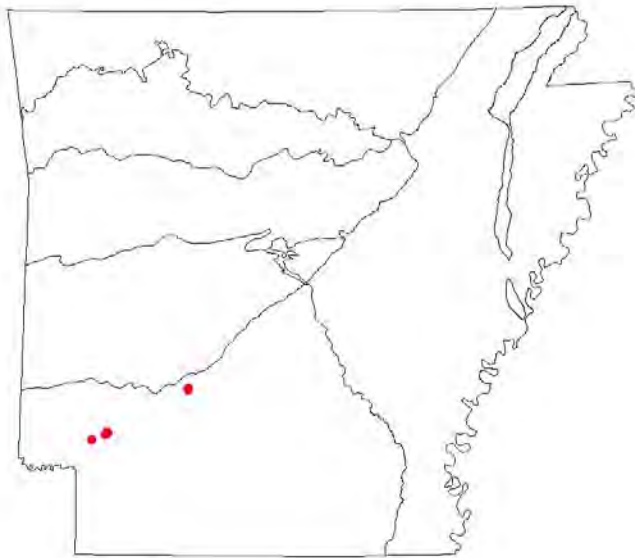
Population Trend: Unknown

Global Rank: GNR — Not yet ranked

State Rank: S1 — Critically imperiled in Arkansas

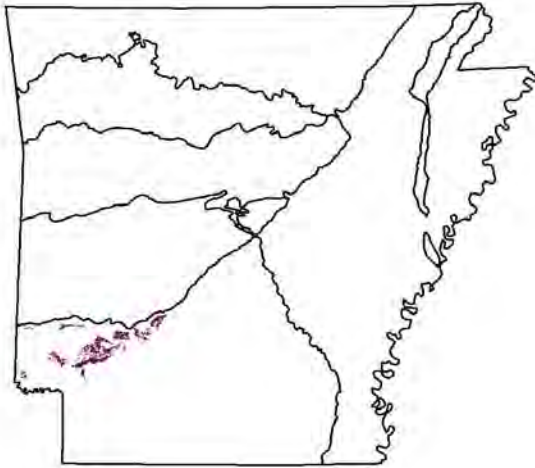


Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Prairie and Woodland

Weight

Optimal

West Gulf Coastal Plain Calcareous Prairie and Woodland

Optimal

Problems Faced

Degradation of prairies.

Threat: Habitat disturbance
Source: Grazing/Browsing

Loss of prairie habitat.

Threat: Habitat destruction or conversion
Source: Commercial/industrial development

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance Category

Protect prairie habitat hosting this species.

High

Habitat Protection

Restore prairies to achieve habitat connectivity.

High

Habitat Restoration/Improvement

Monitoring Strategies

Survey for additional populations and monitor known occurrences.

Comments

A small native bee only known from one site in southwestern Arkansas. Relatively narrow floral foraging preferences (purple prairie clover) (LaBerge 2001).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Tetraopes quinquemaculatus

Red Milkweed Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cerambycidae

Priority Score: **21** out of 100



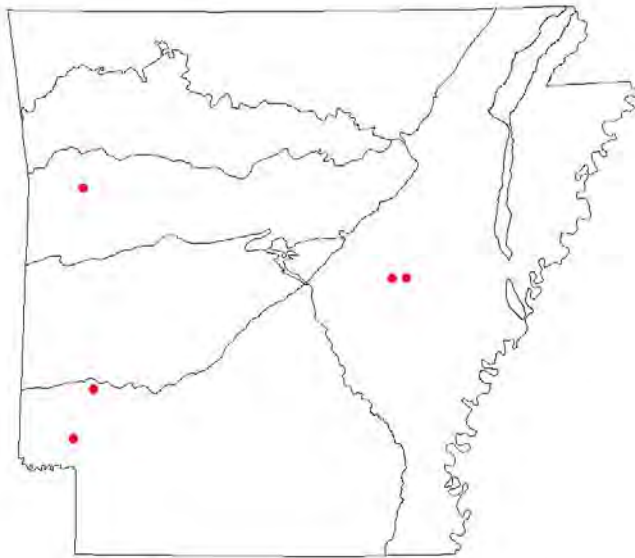
Population Trend: Unknown

Global Rank: GNR — Not yet ranked

State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)

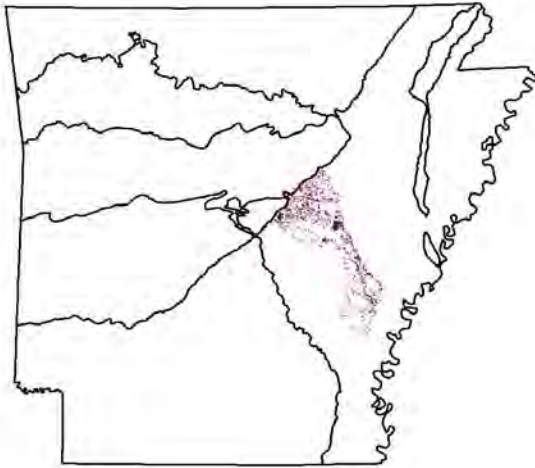


Distribution Occurrence Records

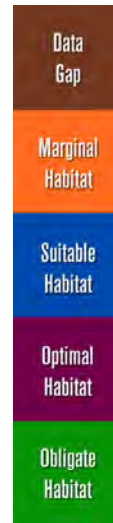


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Lower Mississippi Alluvial Plain Grand Prairie	Optimal
Ozark-Ouachita Prairie and Woodland	Optimal
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable

Weight

Problems Faced

Loss of prairie habitat.	Threat: Habitat destruction or conversion Source: Commercial/industrial development
Loss of prairie habitat.	Threat: Habitat destruction or conversion Source: Agricultural practices
Loss of prairie habitat.	Threat: Habitat destruction or conversion Source: Urban development

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance Category

Protect prairie habitat hosting this species.	High	Habitat Protection
Restore prairies to achieve habitat connectivity.	High	Habitat Restoration/Improvement

Tetraopes quinque maculatus
Red Milkweed Beetle

Monitoring Strategies

Survey for additional populations and monitor known occurrences.

Comments

A milkweed beetle dependent upon prairie habitat hosting sufficient amounts of the milkweed *Asclepias viridiflora* (Warriner 2004).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner

Tetraopes texanus

Texas Milkweed Beetle

Class: Insecta
 Order: Coleoptera
 Family: Cerambycidae

Priority Score: **21** out of 100



Population Trend: Unknown

Global Rank: GNR — Not yet ranked

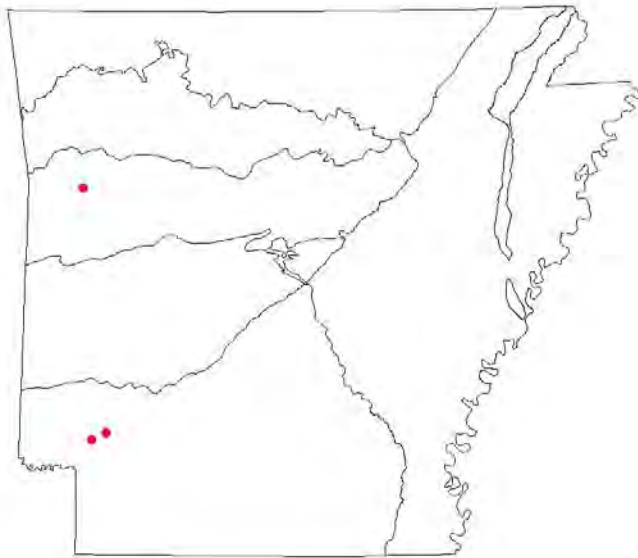
State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)



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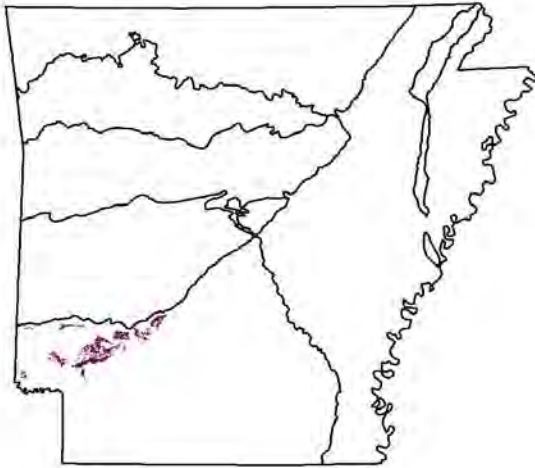
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Ozark-Ouachita Prairie and Woodland

Weight

Optimal

West Gulf Coastal Plain Calcareous Prairie and Woodland

Optimal

Problems Faced

Loss of prairie habitat.

Threat: Habitat destruction or conversion
Source: Commercial/industrial development

Loss of prairie habitat.

Threat: Habitat destruction or conversion
Source: Urban development

Loss of prairie habitat.

Threat: Habitat destruction or conversion
Source: Agricultural practices

Data Gaps/Research Needs

Need to obtain baseline information on distribution and population status.

Conservation Actions

Importance Category

Protect prairie habitat hosting this species.

High

Habitat Protection

Restore prairies to achieve habitat connectivity.

High

Habitat Restoration/Improvement

Monitoring Strategies

Survey for additional populations and monitor known occurrences.

Comments

A milkweed beetle dependent upon prairie habitat hosting sufficient amounts of the milkweed *Asclepias viridis* (Warriner 2004).

Taxa Association Team and Peer Reviewers

ANHC Mr. Michael Warriner