

## *Bouchardina robisoni*

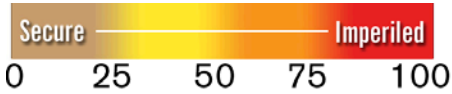
### Bayou Bodcau Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **50** out of 100



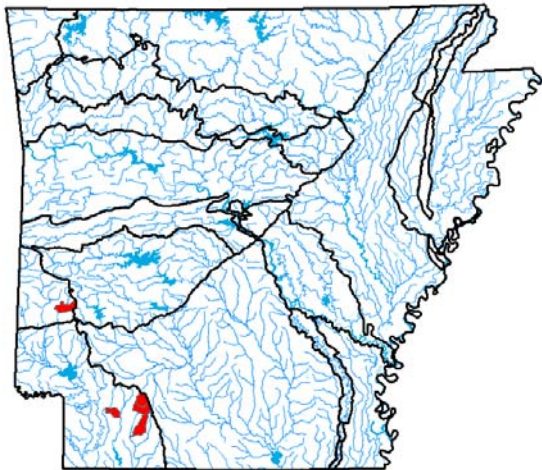
Population Trend: Unknown

Global Rank: G2 — Imperiled species

State Rank: S1 — Critically imperiled in Arkansas

## Distribution

### Element Occurrence Records

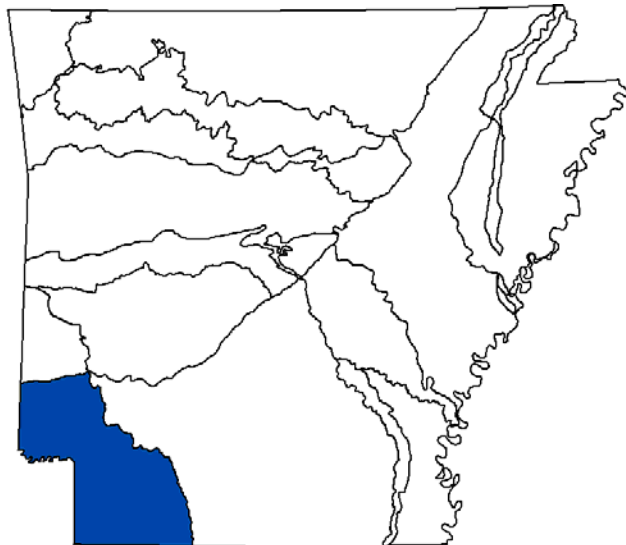


Ecoregions where the species occurs:

- 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 - Red River

South Central Plains - Red River

**Terrestrial Habitats**

West Gulf Coastal Plain Seepage Swamp and Bayall

Data Gap

## Aquatic Habitats

Natural Pool: Headwater	Data Gap
Natural Riffle: Headwater	Data Gap
Natural Seep: Headwater - Small	Data Gap
Natural Swamp/Wetlands: Headwater - Small	Data Gap

## Problems Faced

Threat: Habitat disturbance  
Source: Road construction

Threat: Hydrological alteration  
Source: Forestry activities

Threat: Toxins/contaminants  
Source: Road construction

## Data Gaps/Research Needs

Identify habitat requirements and threats.

Survey for additional populations.

## Conservation Actions

	Importance	Category
	Medium	Threat Abatement
Protect known occurrences from construction activities and herbicide applications.	Medium	Habitat Protection

## Monitoring Strategies

Monitor known occurrences.

## Comments

Description: a small (approximately 1/2 inch carapace length), grayish-tan crayfish with reddish-tan carapace with U-shaped rust markings on the sides (Hobbs 1977).

This species is an Arkansas endemic known from few sites. Robison (2006) found it to be localized, highly sporadic, and rarely abundant. He found it at 9 locations, but considered it to be more rare than previously thought.

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Cambarus aculabrum*

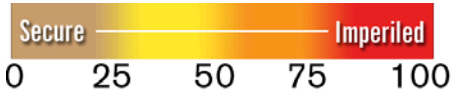
### Benton County Cave Crayfish

**Class:** Malacostraca

**Order:** Decapoda

**Family:** Cambaridae

**Priority Score:** 80 out of 100



**Population Trend:** Stable

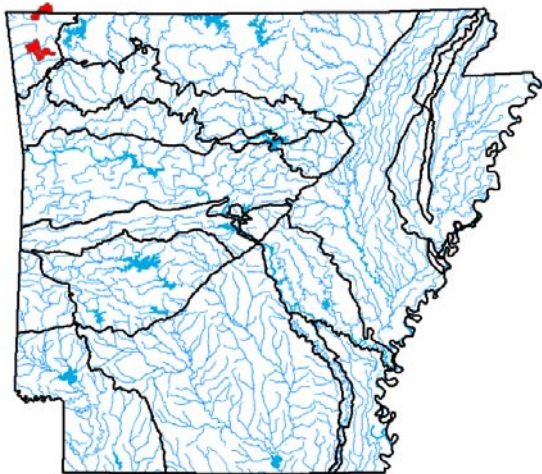
**Global Rank:** G1 — Critically imperiled species

**State Rank:** S1 — Critically imperiled in Arkansas



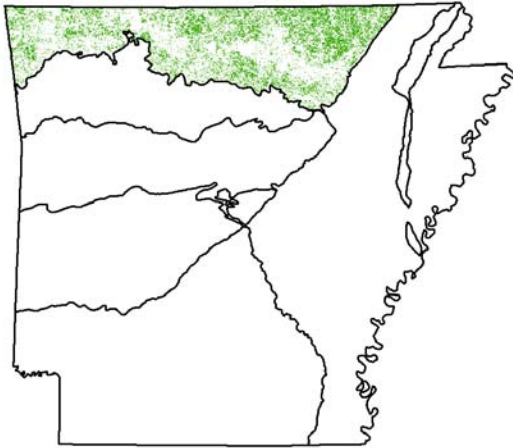
## Distribution

### Element Occurrence Records

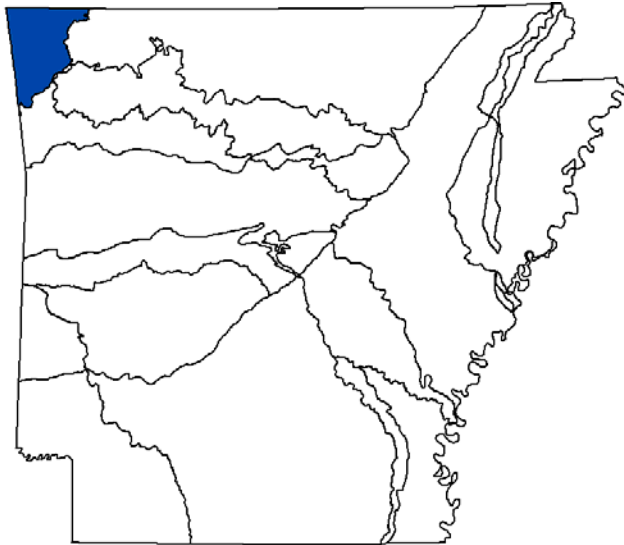


Ecoregions where the species occurs:

- 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**

Ozark Highlands - Arkansas River

**Terrestrial Habitats**

Caves, Mines, Sinkholes and other Karst Features      Obligate

**Aquatic Habitats**

Natural Cave Stream: - Small - Medium      Obligate

Natural Groundwater:      Obligate

Natural Spring Run: Headwater      Marginal

## *Cambarus hubbsi*

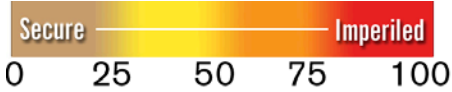
### Hubbs' Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **27** out of 100



Population Trend: Unknown

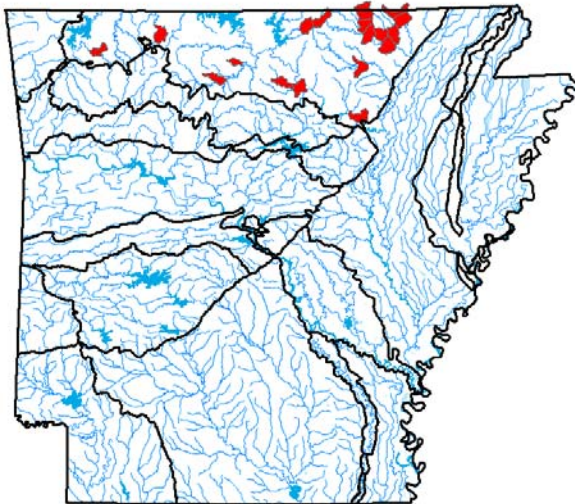
Global Rank: G3? — Vulnerable (inexact numeric rank)

State Rank: S3 — Vulnerable in Arkansas



## Distribution

### Occurrence Records



Ecoregions where the species occurs:

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

## Ecobasins

Boston Mountains - White River

Ozark Highlands - White River

Habitats	Weight
Natural Cave Stream: - Medium - Large	Marginal
Natural Glide: - Medium - Large	Suitable
Natural Pool: - Medium - Large	Marginal
Natural Riffle: - Medium - Large	Optimal
Natural Run: - Medium - Large	Optimal
Natural Shoal: - Medium - Large	Optimal

## Problems Faced

Threat: Biological alteration

Source: Exotic species

Threat: Habitat destruction

Source: Grazing/Browsing

## Data Gaps/Research Needs

Determine impact of introduced crayfish.

Determine taxonomic and genetic status of subpopulations.

Survey for additional populations.

Conservation Actions	Importance	Category
Maintain healthy, upland streams.	Medium	Habitat Protection
Prevent introduction of non-native crayfishes.	Medium	Threat Abatement

## Monitoring Strategies

Monitor incidental to stream crayfish survey.

## Comments

This crayfish is endemic to the Ozarks. It is fairly common in Ozark streams of the Black River basin, but it is much less common in the remainder of the White River basin. Coloration and habitat use differences between the two areas also are curious, and warrant future attention (Brian Wagner, personal communication).

Interspecific competition with the invasive crayfish *Orconectes neglectus* is thought to be causing a reduction in the range of this species, in addition to changes in land use causing a decline in stream habitat quality (Magoulick and DiStefano 2007). The causes of this decline, however, have yet to be confirmed.

## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## Problems Faced

Threat: Hydrological alteration  
Source: Urban development

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Threat: Nutrient loading  
Source: Confined animal operations

---

Threat: Nutrient loading  
Source: Urban development

---

Threat: Sedimentation  
Source: Road construction

---

Threat: Toxins/contaminants  
Source: Confined animal operations

---

## Data Gaps/Research Needs

Determine life history information.

---

Determine taxonomic relationships.

---

Survey and model for additional populations.

---

## Conservation Actions

**Importance**   **Category**

Maintain groundwater quality.

High

Threat Abatement

---

Protect cave habitat and recharge zone from development or disturbance.

High

Habitat Protection

---

## Monitoring Strategies

Monitor known occurrences using protocols developed by monitoring team of The Nature Conservancy, ANHC, AGFC, and the US Fish and Wildlife Service.

---

## Comments

Description: a small (maximum 28mm carapace length), unpigmented troglobitic crayfish with reduced eyes. (Hobbs and Brown 1987).

This crayfish is endemic to northwest Arkansas, known from very few caves, and has been listed as endangered (USFWS 1993). The species is threatened by water quality degradation, small population size, limited reproductive potential, and possible take by humans. (USFWS 1996). Recent discoveries have expanded the known distribution of this species to four sites. (Mike Slay, personal communication).

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## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick



# *Cambarus causeyi*

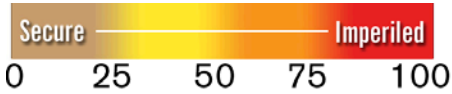
## Boston Mountains Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **62** out of 100



Population Trend: Decreasing

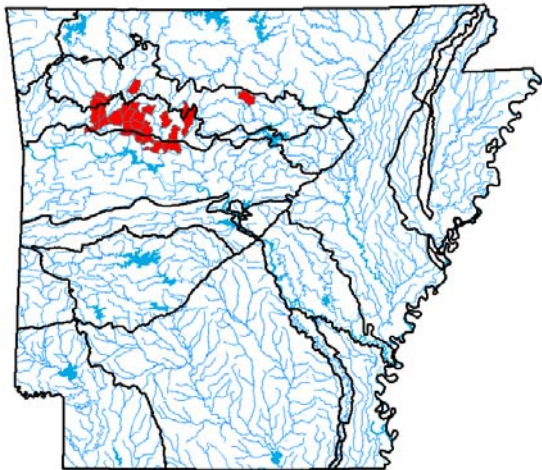
Global Rank: G2 — Imperiled species

State Rank: S1 — Critically imperiled in Arkansas



## Distribution

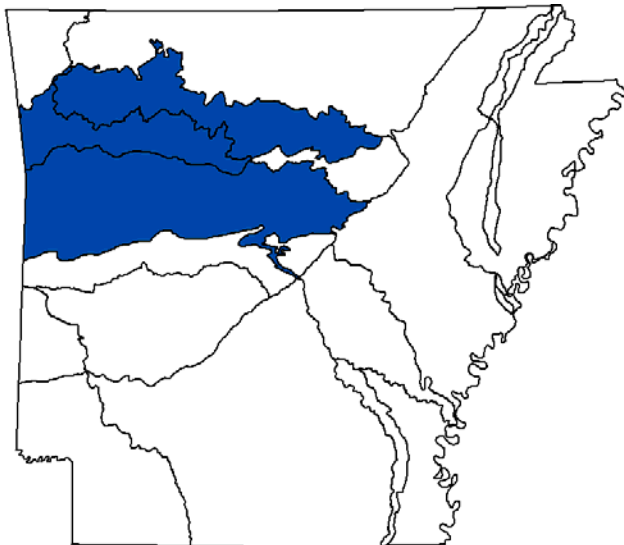
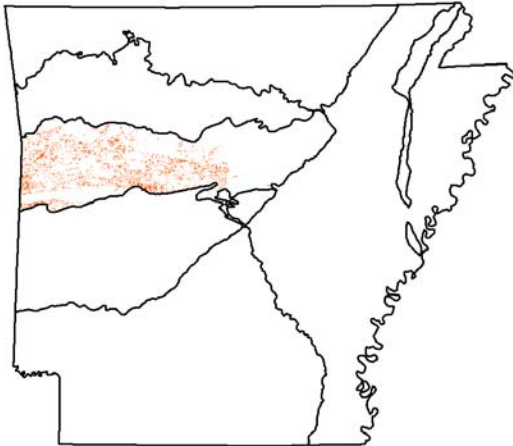
### Element Occurrence Records



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**

Arkansas Valley - Arkansas River

Boston Mountains - Arkansas River

Boston Mountains - White River

**Terrestrial Habitats**

Ozark-Ouachita Riparian Marginal

**Aquatic Habitats**

Natural Seep: Headwater Obligate

Natural Spring Run: Headwater Suitable

*Cambarus causeyi*  
Boston Mountains Crayfish

## Problems Faced

Threat: Groundwater depletion  
 Source: Excessive groundwater withdrawal

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Threat: Habitat disturbance  
 Source: Resource extraction

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Threat: Riparian Habitat Destruction  
 Source: Forestry activities

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## Data Gaps/Research Needs

Determine status of known populations.

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Identify habitat requirements and threats.

---

Survey for additional populations.

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## Conservation Actions

### Importance Category

Medium Habitat Restoration/Improvement

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Maintain or, where necessary, restore water quality and stream habitat.

Medium Habitat Protection

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## Monitoring Strategies

Monitor known occurrences.

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## Comments

Description: a strongly compressed, olive-colored crayfish that is poorly known. (Robison and Allen 1995).

This Arkansas endemic crayfish inhabits complex burrows on hillsides near springs in the Boston Mountains. (Bouchard and Robison 1980). It is most closely related to three troglobitic species. (Reimer 1966). Robison et al. (2009) suspected that the species may be declining after only locating specimens at 4 out of 39 sites examined.

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## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

# *Cambarus setosus*

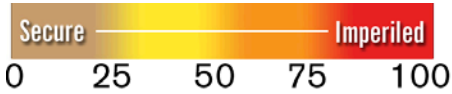
## Bristly Cave Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **34** out of 100



Population Trend: Unknown

Global Rank: G3 — Vulnerable species

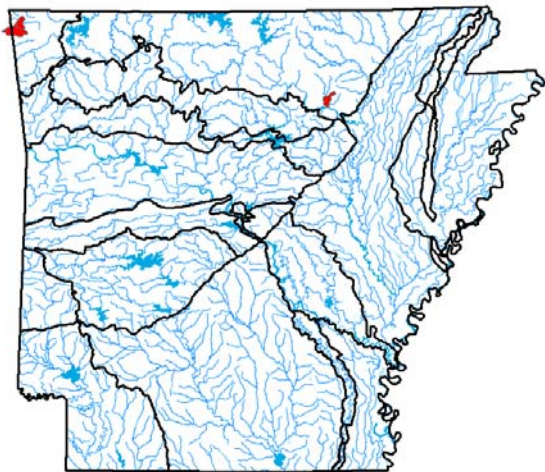
State Rank: S1 — Critically imperiled in Arkansas



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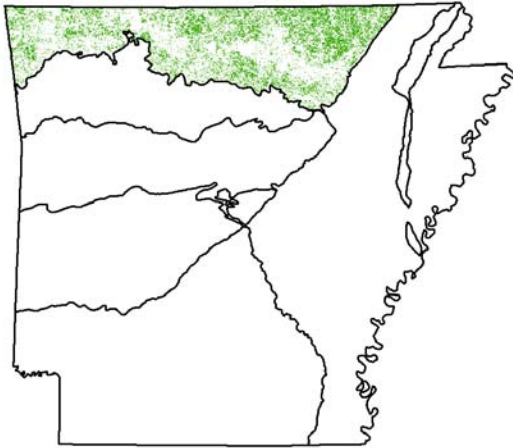
## Distribution

### Element Occurrence Records

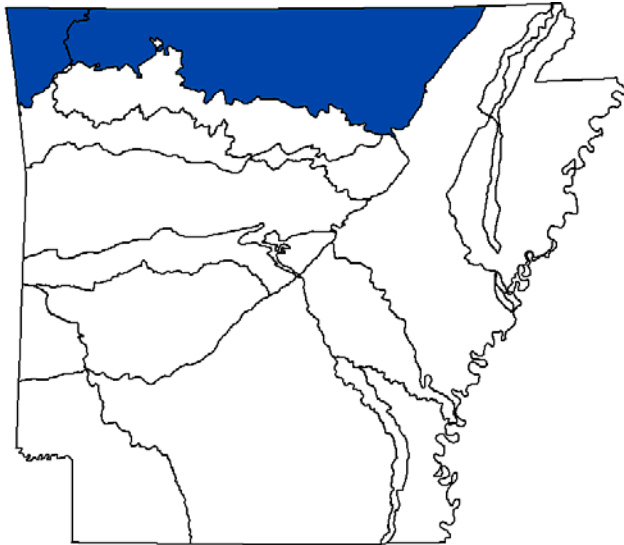


Ecoregions where the species occurs:

- 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**

Ozark Highlands - Arkansas River

Ozark Highlands - White River

**Terrestrial Habitats**

Caves, Mines, Sinkholes and other Karst Features      Obligate

**Aquatic Habitats**

Natural Cave Stream: - Small      Obligate

Natural Groundwater:      Obligate

## Problems Faced

Threat: Hydrological alteration  
Source: Urban development

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Threat: Nutrient loading  
Source: Confined animal operations

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Threat: Sedimentation  
Source: Road construction

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Threat: Toxins/contaminants  
Source: Road construction

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## Data Gaps/Research Needs

Conduct taxonomic and genetic analyses.

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Determine life history characteristics.

---

Survey and model for additional populations.

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## Conservation Actions

Maintain groundwater quality.

### Importance Category

Medium Threat Abatement

---

Protect cave habitat and recharge zone from development or disturbance.

Medium Habitat Protection

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## Monitoring Strategies

Monitor known occurrences.

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## Comments

Description: a small (maximum 4.7 inches total length), unpigmented troglobitic crayfish with reduced eyes. (Pflieger 1996).

This crayfish is endemic to caves of the Ozarks in Missouri and Oklahoma. (Hobbs 1989). Recent unpublished discoveries have found this species in Arkansas as well. (Horton H. Hobbs III, personal communication). There is little known about the species in the state and based on the distribution of all cave crayfish populations in Arkansas, the identification of these populations is suspect and should be verified via genetic analyses.

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

# *Cambarus zophonastes*

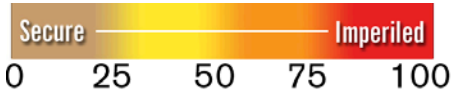
## Hell Creek Cave Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **80** out of 100



Population Trend: Stable

Global Rank: G1 — Critically imperiled species

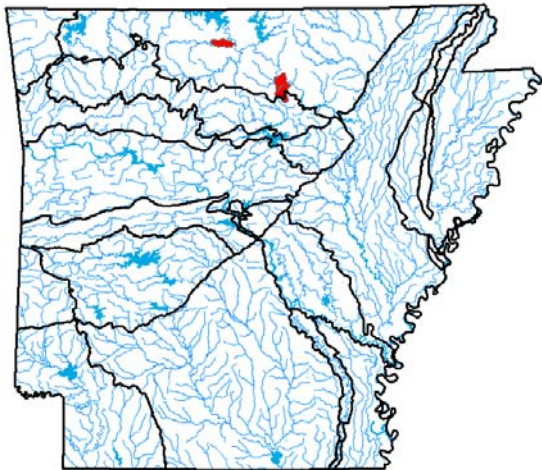
State Rank: S1 — Critically imperiled in Arkansas



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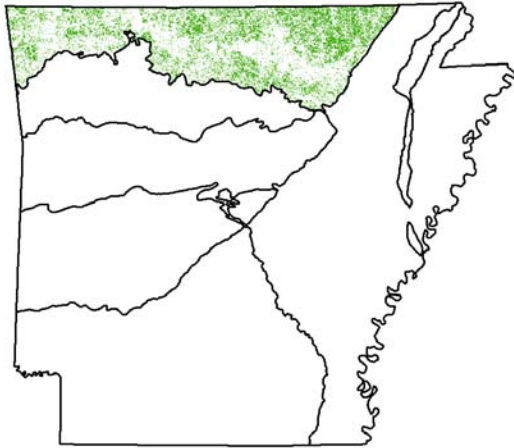
## Distribution

### Element Occurrence Records

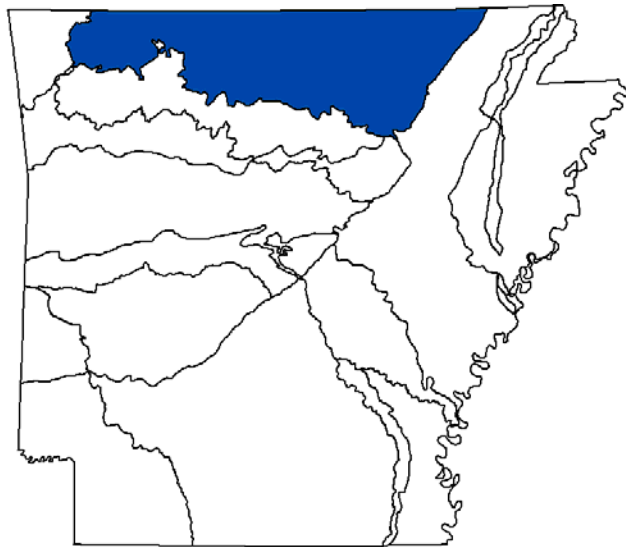


Ecoregions where the species occurs:

- 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**

Ozark Highlands - White River

**Terrestrial Habitats**

Caves, Mines, Sinkholes and other Karst Features      Obligate

**Aquatic Habitats**

Natural Cave Stream: - Small - Medium      Obligate

Natural Groundwater:      Obligate

Natural Spring Run: - Small - Medium      Marginal



**Problems Faced**

Threat: Habitat disturbance  
Source: Forestry activities

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Threat: Habitat disturbance  
Source: Urban development

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Threat: Sedimentation  
Source: Road construction

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Threat: Toxins/contaminants  
Source: Road construction

---

**Data Gaps/Research Needs**

Refine delineation of vulnerable portions of recharge area and identify threats therein.

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Survey and model for additional populations.

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**Conservation Actions**

**Importance Category**

Maintain groundwater quality.	High	Threat Abatement
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Protect cave habitat and recharge zone from development or disturbance.	Medium	Habitat Protection
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**Monitoring Strategies**

Monitor known occurrences using protocols determined by monitoring team of The Nature Conservancy, ANHC, AGFC, and the US Fish and Wildlife Service.

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**Comments**

Description: an obligate cave dweller lacking pigment, with long thin appendages and reduced eyes. (Robison and Allen 1995).

An Arkansas endemic originally known only from a single cave in Stone county which is owned by the Arkansas Natural Heritage Commission. This species is found in and has recently expanded to Nesbitt Spring Cave, Stone County, Arkansas, USA (Graening et al. 2006). Surveys have been initiated at 170 other caves; no additional populations have been located.

Protection of Hell Creek Cave's recharge area is the primary focus of recovery (USFWS 1988). While populations persist at what is likely historic levels its limited distribution makes it vulnerable to impacts (Graening and others, in progress). Individuals of this species have been washed out of groundwater feeding Town Branch in Yellville, and recharge delineation for this location has been completed through a Section 6 study (Slay 2014). Genetic identification of crayfish of other caves in the eastern Ozarks may reveal additional populations.

**Taxa Team and Peer Reviewers**

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Fallicambarus dissitus*

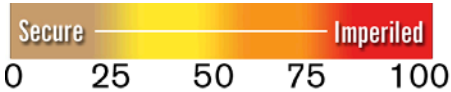
### Pine Hills Digger

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **32** out of 100



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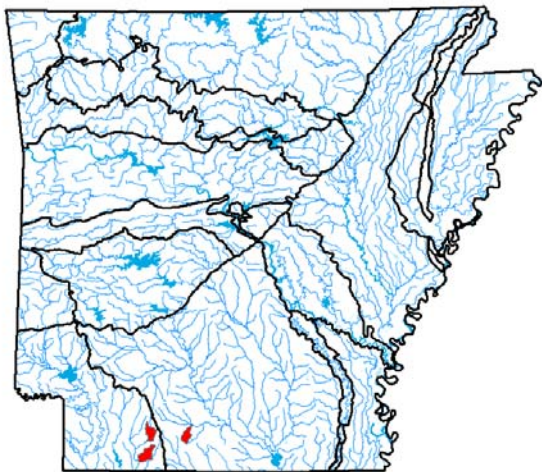
Population Trend: Unknown

Global Rank: G3 — Vulnerable species

State Rank: S1S2? — Critically imperiled species in Arkansas (uncertain rank) (inexact numeric rank)

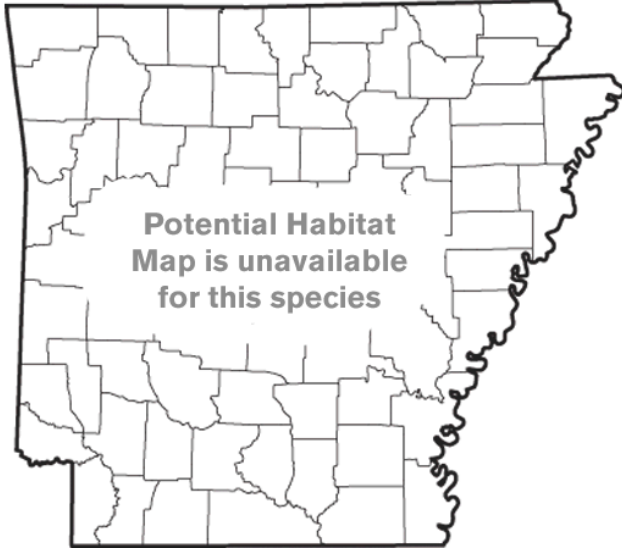
## Distribution

### Element Occurrence Records

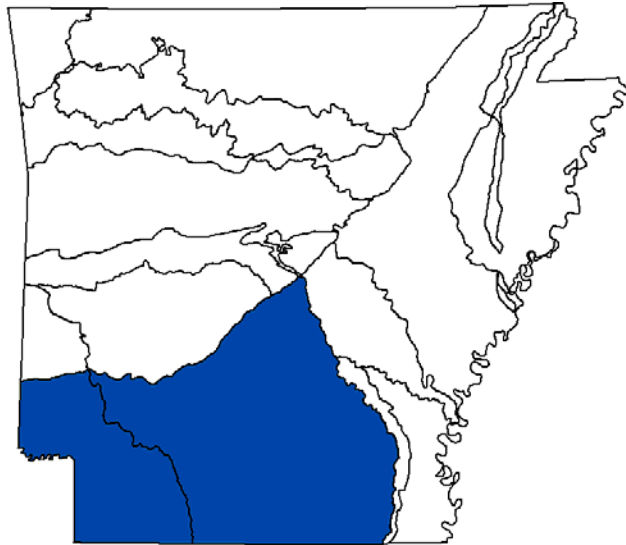


Ecoregions where the species occurs:

- 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**

South Central Plains - Ouachita River

South Central Plains - Red River

**Terrestrial Habitats**

West Gulf Coastal Plain Seepage Swamp and Baygall      Suitable

**Aquatic Habitats**

Natural Groundwater:      Suitable

Natural Seep: - Small      Suitable

*Fallicambarus dissitus*  
Pine Hills Digger

## Problems Faced

Threat: Habitat disturbance  
Source: Road construction

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Threat: Toxins/contaminants  
Source: Road construction

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## Data Gaps/Research Needs

Determine habitat requirements and threats.

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Survey for additional populations.

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## Conservation Actions

Protect known occurrences from construction activities and herbicide applications.

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Importance	Category
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Medium	Habitat Protection
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## Monitoring Strategies

Monitor known occurrences.

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## Comments

A primary burrowing crayfish endemic to Louisiana and Arkansas. It is of conservation concern in Louisiana and there are very few records from Arkansas.

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## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Fallicambarus gilpini*

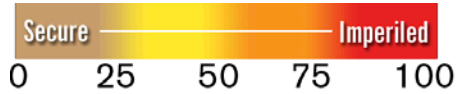
### Jefferson County Crayfish

**Class:** Malacostraca

**Order:** Decapoda

**Family:** Cambaridae

**Priority Score:** 50 out of 100



**Population Trend:** Unknown

**Global Rank:** G2 — Imperiled species

**State Rank:** S1 — Critically imperiled in Arkansas

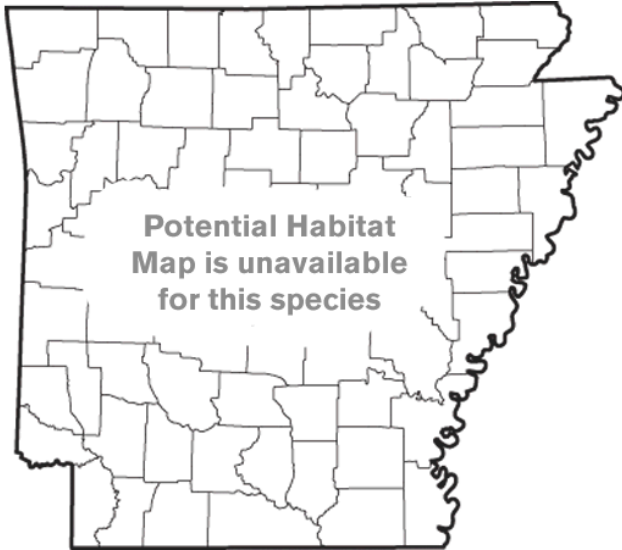
## Distribution

### Element Occurrence Records

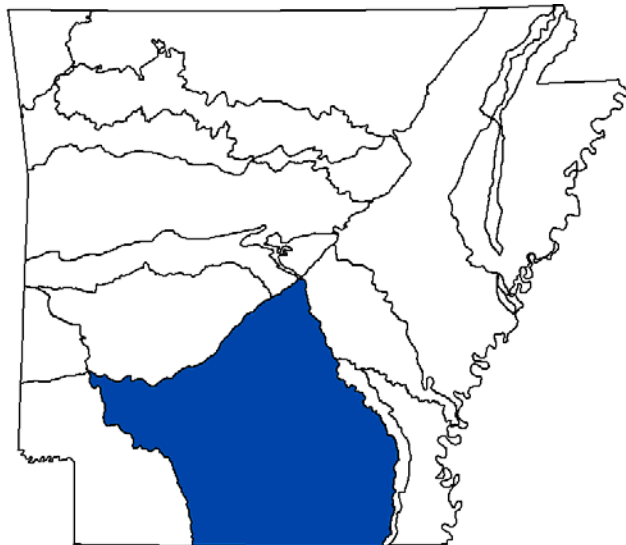


Ecoregions where the species occurs:

- 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**

South Central Plains - Ouachita River

**Terrestrial Habitats**

West Gulf Coastal Plain Seepage Swamp and Baygall                      Suitable

**Aquatic Habitats**

Natural Groundwater:                      Data Gap

Natural Seep: - Small                      Suitable

## Problems Faced

Threat: Habitat disturbance  
Source: Road construction

---

Threat: Toxins/contaminants  
Source: Road construction

---

## Data Gaps/Research Needs

Determine habitat requirements.

---

Survey for additional populations.

---

## Conservation Actions

Protect known occurrences from construction activities and herbicide applications.

### Importance Category

Medium Habitat Protection

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Protect known occurrences from construction activities and herbicide applications.

Medium Threat Abatement

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## Monitoring Strategies

Monitor known occurrences.

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## Comments

Description: a burrowing crayfish often blueish in color. (Hobbs and Robison 1989)

This Arkansas endemic crayfish is restricted to a small area southwest of Pine Bluff, Arkansas. It has been documented from six sites in Jefferson County and one site in Cleveland County. (Robison and Wagner 2005). It prefers to burrow on seepage slopes away from standing water areas.

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## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Fallicambarus harpi*

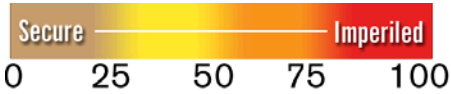
### Ouachita Burrowing Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **46** out of 100



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Population Trend: Stable

Global Rank: G2 — Imperiled species

State Rank: S2 — Imperiled in Arkansas

## Distribution

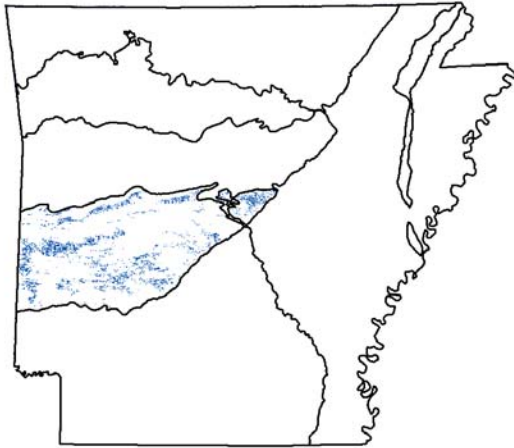
### Element Occurrence Records



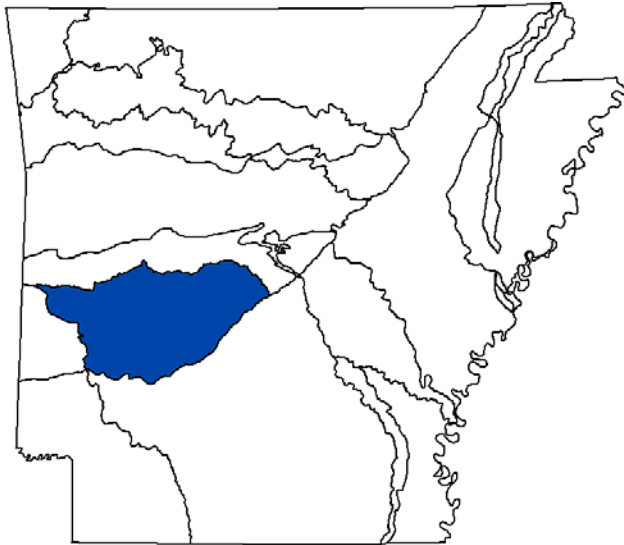
Ecoregions where the species occurs:

- 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

Ouachita Mountains - Ouachita River

## Terrestrial Habitats

Ozark-Ouachita Forested Seep                      Suitable

Pasture Land    Suitable

## Aquatic Habitats

Natural Groundwater:                              Data Gap

Natural Seep: - Small                              Suitable

## Problems Faced

Threat: Habitat disturbance  
Source: Road construction

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Threat: Toxins/contaminants  
Source: Road construction

---

## Data Gaps/Research Needs

Identify habitat requirements and threats.

---

## Conservation Actions

### Importance Category

Medium Threat Abatement

---

Protect known occurrences from construction activities and herbicide applications.

---

Medium Habitat Protection

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a burrowing crayfish, tan in color with highly variable patterning (Hobbs and Robison 1985).

This crayfish is endemic to the southern Ouachitas and is known from 12 sites in Garland, Hot Spring, Montgomery, and Pike counties (Robison and Crump 2004). Rhoden et al. 2016 are currently studying this species in an attempt to model distribution based on habitat characteristics.

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## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Fallicambarus jeanae*

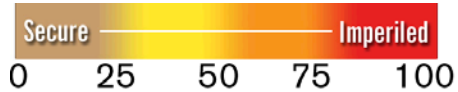
### Daisy Burrowing Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **46** out of 100



Population Trend: Unknown

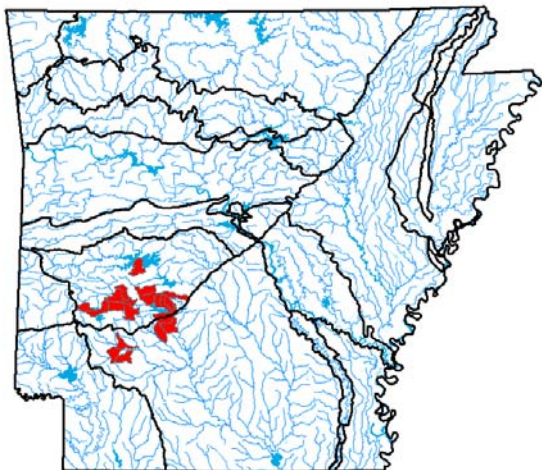
Global Rank: G2 — Imperiled species

State Rank: S2 — Imperiled in Arkansas



## Distribution

### Element Occurrence Records

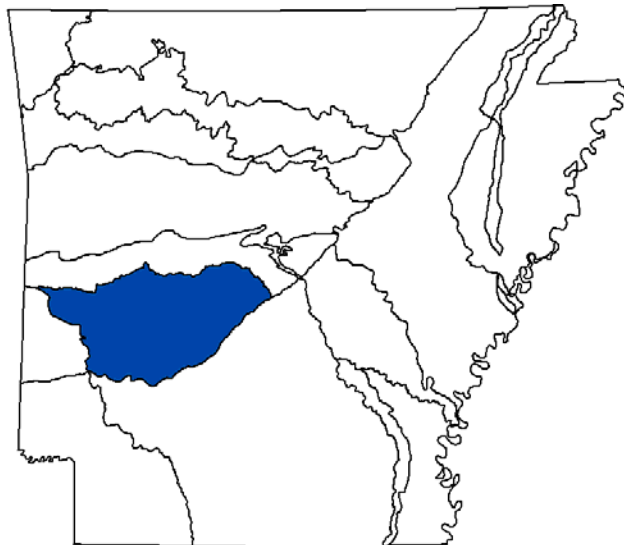


Ecoregions where the species occurs:

- 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

Ouachita Mountains - Ouachita River

South Central Plains - Ouachita River

### Terrestrial Habitats

Ozark-Ouachita Forested Seep Optimal

### Aquatic Habitats

Natural Groundwater: - Small Data Gap

Natural Seep: - Small Optimal

## Problems Faced

Threat: Habitat disturbance  
Source: Road construction

---

Threat: Toxins/contaminants  
Source: Road construction

---

## Data Gaps/Research Needs

Identify habitat requirements and threats.

---

Survey for additional populations.

---

## Conservation Actions

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

Protect known occurrences from construction activities and herbicide applications.	Medium	Habitat Protection
--	--------	--------------------

---

Protect known occurrences from construction activities and herbicide applications.	Medium	Threat Abatement
--	--------	------------------

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a burrowing crayfish varying in color from tan to grey (Hobbs 1973, Robison and Allen 1995).

This endemic crayfish inhabits burrows in sandy clay soils in Hemptead, Pike, Clark and Hot Spring counties (Robison and Allen 1995).

---

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Fallicambarus petilicarpus*

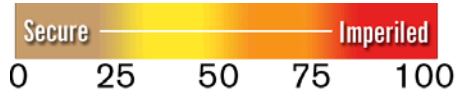
### Slenderwrist Burrowing Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **80** out of 100



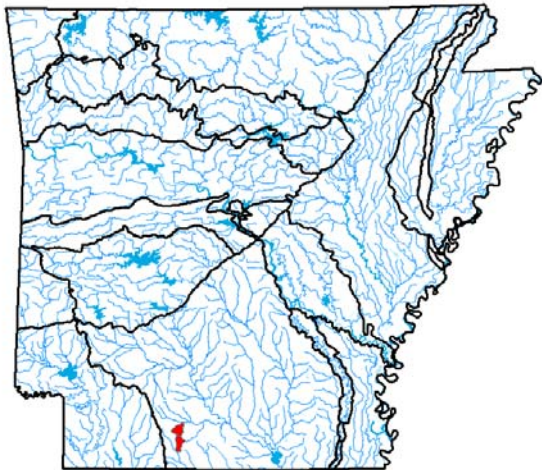
Population Trend: Unknown

Global Rank: G1 — Critically imperiled species

State Rank: S1 — Critically imperiled in Arkansas

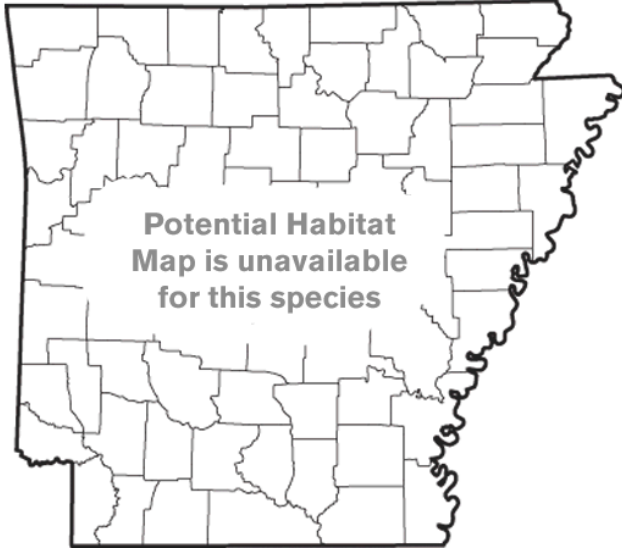
## Distribution

### Element Occurrence Records

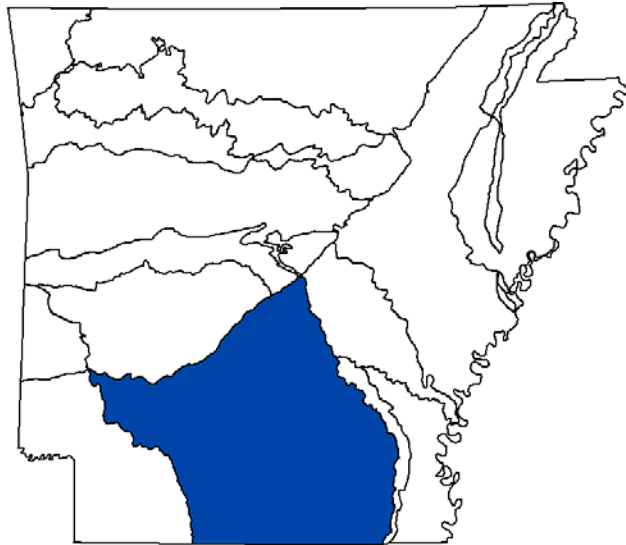


Ecoregions where the species occurs:

- 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**

South Central Plains - Ouachita River

**Terrestrial Habitats**

West Gulf Coastal Plain Seepage Swamp and Baygall      Data Gap

**Aquatic Habitats**

Natural Groundwater:      Data Gap

Natural Seep: - Small      Suitable

*Fallicambarus petilicarpus*  
Slenderwrist Burrowing Crayfish

## Problems Faced

Threat: Habitat disturbance  
Source: Road construction

---

Threat: Toxins/contaminants  
Source: Road construction

---

## Data Gaps/Research Needs

Identify habitat requirements and threats.

---

Survey for additional populations.

---

## Conservation Actions

	Importance	Category
Protect known occurrences from construction activities and herbicide applications.	Medium	Habitat Protection
Protect known occurrences from construction activities and herbicide applications.	Medium	Threat Abatement

## Monitoring Strategies

Determine habitat requirements.

---

Monitor known occurrences.

---

## Comments

Description: a burrowing crayfish, olive-brown and tan in color (Hobbs and Robison 1989).

This endemic crayfish has been documented from 5 locations in Union and Columbia counties (Robison 2001, Robison et al. 2008). This species is at present known from only 18 specimens, from two collections at the type locality, and an undetermined number of specimens at a second locality in Columbia County (Robinson et al. 2008).

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick



## *Fallicambarus strawni*

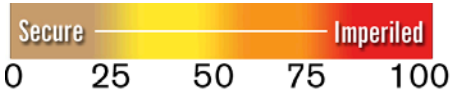
### Saline Burrowing Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **65** out of 100



Population Trend: Unknown

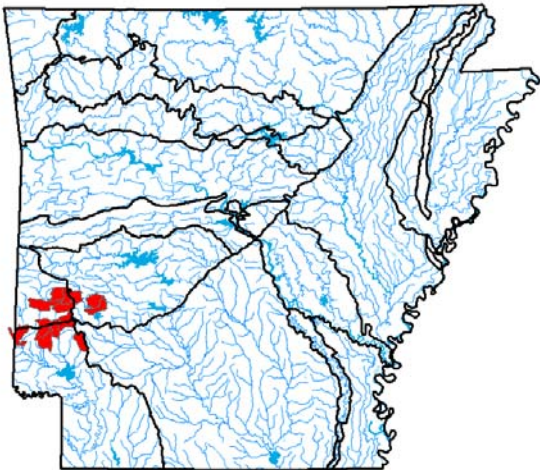
Global Rank: G1G2 — Critically imperiled (uncertain rank)

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



## Problems Faced

Threat: Habitat destruction or conversion  
Source: Road construction

---

Threat: Habitat disturbance  
Source: Road construction

---

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

---

## Data Gaps/Research Needs

Identify habitat requirements and threats.

---

Survey for additional populations.

---

## Conservation Actions

Protect known occurrences from construction activities and herbicide applications.

---

### Importance Category

Medium      Habitat Protection

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a pinkish cream to purplish tan crayfish that was originally described by Reimer (1966).

This endemic crayfish is known from Pike and Howard counties, where it is a primary burrower in marshy areas with sandy clay (Robison and Allen 1995). This species is found in marshes, and its preferred substrate is sandy-clay; nearby streams are clear, fast-running, shallow and with rocky substrate (Reimer 1966).

---

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Faxonella blairi*

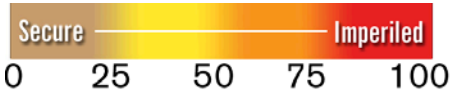
### Blair's Fencing Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **46** out of 100



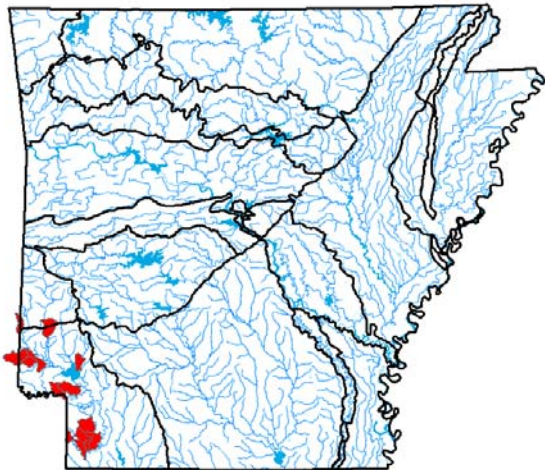
Population Trend: Unknown

Global Rank: G2 — Imperiled species

State Rank: S2 — Imperiled in Arkansas

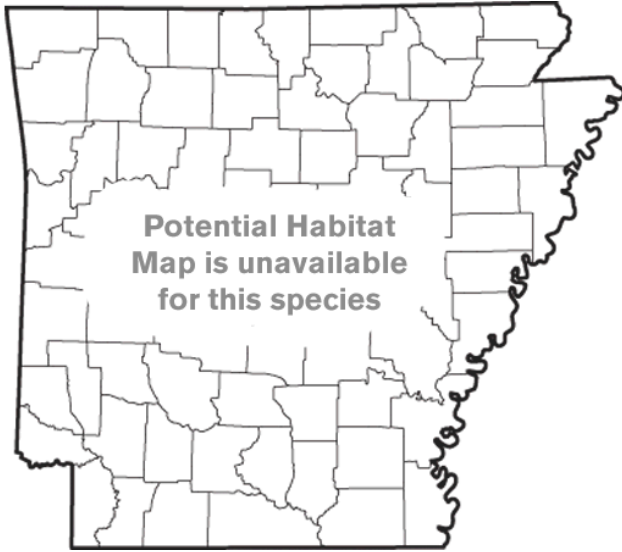
## Distribution

### Element Occurrence Records

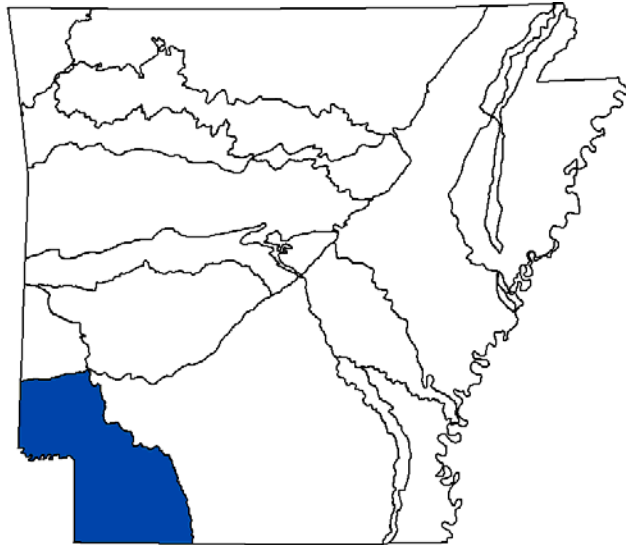


Ecoregions where the species occurs:

- 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**

South Central Plains - Red River

**Terrestrial Habitats**

West Gulf Coastal Plain Seepage Swamp and Baygall                      Data Gap

**Aquatic Habitats**

Natural Swamp/Wetlands:                      Data Gap

## Problems Faced

Threat: Habitat destruction  
Source: Road construction

---

Threat: Habitat disturbance  
Source: Forestry activities

---

Threat: Hydrological alteration  
Source: Urban development

---

Threat: Toxins/contaminants  
Source: Road construction

---

## Data Gaps/Research Needs

Identify habitat requirements and threats.

---

Survey for additional populations.

---

## Conservation Actions

Protect known occurrences from construction activities, herbicide applications and timber harvesting.

---

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

Medium	Habitat Protection
--------	--------------------

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a small, wetland crayfish with maximum carapace length of 20mm (Hayes and Riemer 1977). Occurs in southwest Arkansas and southeast Oklahoma (Hayes and Riemer 1977).

Robison and Crandall (2007) found it to be more common than previously thought, and considered it to be stable.

---

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes acares*

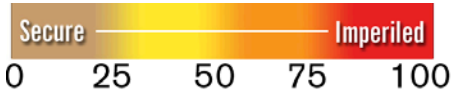
Redspotted Stream Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **19** out of 100



Population Trend: Unknown

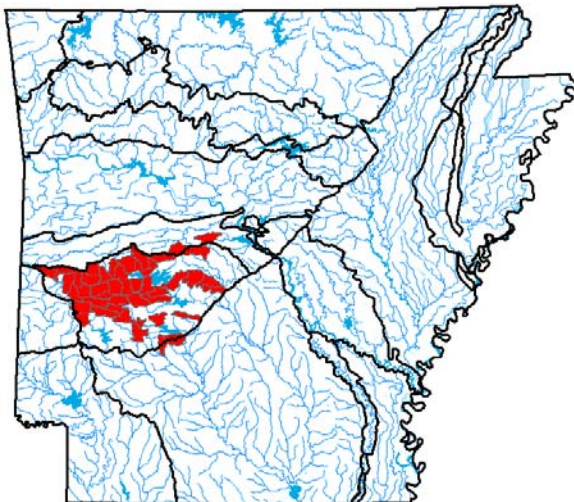
Gobal Rank: G4 — Apparently secure species

State Rank: S3 — Vulnerable in Arkansas



**Distribution**

Occurrence Records



Ecoregions where the species occurs:

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

## Ecobasins

Ouachita Mountains - Arkansas River

Ouachita Mountains - Ouachita River

## Habitats

### Weight

Natural Littoral: - Small - Medium

Optimal

Natural Riffle: - Small - Medium

Optimal

Natural Run: - Small - Medium

Optimal

Natural Shoal: - Small - Medium

Optimal

Natural Spring Run: - Small

Optimal

## Problems Faced

Threat: Habitat destruction

Source:

Threat: Hydrological alteration

Source:

Threat: Nutrient loading

Source:

Threat: Sedimentation

Source: Road construction

## Data Gaps/Research Needs

Identify habitat requirements and threats.

Survey for additional populations.

## Conservation Actions

### Importance Category

Maintain or, where necessary, restore water quality and stream habitat.

Medium

Habitat Protection

## Monitoring Strategies

Monitor incidental to stream crayfish surveys.

## Comments

Hobbs (1989) presented the range of *Orconectes acares* as the tributaries of the Ouachita River in Garland, Hot Springs, Montgomery, Perry, Pike, Polk, and Saline counties. Abundant and widely distributed in the Ouachita uplands of Arkansas - endemic to the state (McAllister and Robison 2010).

## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick



*Orconectes eupunctus*

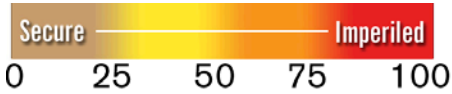
Coldwater Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **50** out of 100



Population Trend: Unknown

Gobal Rank: G2 — Imperiled species

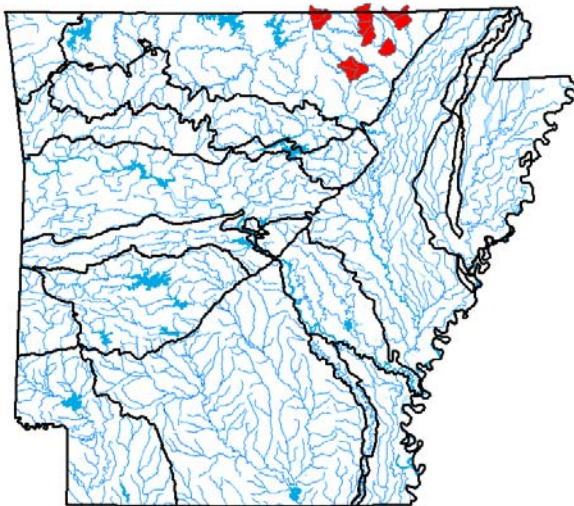
State Rank: S1 — Critically imperiled in Arkansas



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**Distribution**

**Occurrence Records**



Ecoregions where the species occurs:

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

**Ecobasins**

Ozark Highlands - White River

Habitats	Weight
Natural Riffle: - Medium	Optimal
Natural Run: - Medium	Optimal

**Problems Faced**

Threat: Biological alteration  
Source: Exotic species

Threat: Habitat disturbance  
Source: Resource extraction

Threat: Sedimentation  
Source: Forestry activities

Threat: Sedimentation  
Source: Road construction

**Data Gaps/Research Needs**

Confirm taxonomic status of potential related new species.

Determine threat from introduced species and mechanisms of displacement.

Identify habitat requirements and threats.

Survey for additional populations.

Conservation Actions	Importance	Category
Maintain or, where necessary, restore water quality and stream habitat.	Medium	Habitat Protection
Prevent introduction of non-native crayfishes.	Medium	Threat Abatement

**Monitoring Strategies**

Monitor known occurrences every 2-5 years.

## Comments

Description: a rather small, stout crayfish with reddish brown thorax and abdomen (Pflieger 1996). Endemic to the Eleven Point and Spring River drainages of Arkansas and Missouri (Williams 1954). Also found in localized areas in Strawberry River (Wagner et al. 2008) and a tributary (Henry Robison, pers. Comm.).

Wagner et al. 2008 found limited occurrences in random basin-wide surveys and inferred dependence on larger stream habitats. The species is the subject of a current range-wide study by Missouri Department of Conservation, University of Arkansas, USGS, AGFC, and Carnegie Museum of Natural History looking at status, habitat use, life history, genetics, and thermal stress.

The range of this species is in decline due, predominantly due to inter-specific competition with the invasive crayfish *Orconectes neglectus* and changes in land use causing a decline in stream habitat quality (Magoulick and DiStefano 2007) where there has been a documented decline in at least one drainage (Magoulick and DiStefano 2007). The precise causes for the decline have not been confirmed (Rabalais and Magoulick 2006).

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## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes leptogonopodus*

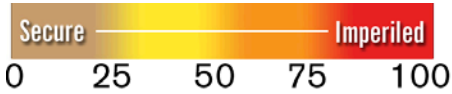
Little River Creek Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **19** out of 100



Population Trend: Unknown

Gobal Rank: G4 — Apparently secure species

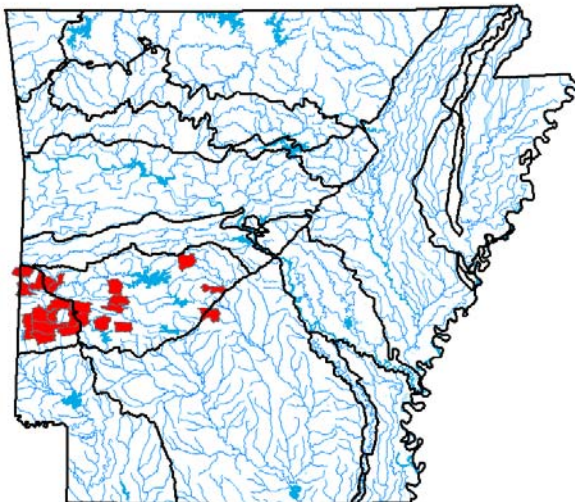
State Rank: S3 — Vulnerable in Arkansas



Chris Lukhaup

**Distribution**

Occurrence Records



Ecoregions where the species occurs:

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

**Ecobasins**

Ouachita Mountains - Ouachita River

Ouachita Mountains - Red River

**Habitats**

**Weight**

Natural Glide: Headwater - Small - Medium	Data Gap
Natural Littoral: Headwater - Small - Medium	Data Gap
Natural Pool: Headwater - Small - Medium	Data Gap
Natural Riffle: Headwater - Small - Medium	Data Gap
Natural Run: Headwater - Small - Medium	Data Gap
Natural Shoal: Headwater - Small - Medium	Data Gap

**Problems Faced**

Threat: Habitat disturbance  
Source: Resource extraction

Threat: Hydrological alteration  
Source:

Threat: Nutrient loading  
Source:

Threat: Sedimentation  
Source: Forestry activities

Threat: Sedimentation  
Source: Road construction

**Data Gaps/Research Needs**

Determine species distribution in Arkansas.

Identify habitat requirements and threats.

**Conservation Actions**

**Importance Category**

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

**Monitoring Strategies**

More information is needed before a monitoring strategy can be developed.

**Comments**

This species is restricted to Ouachita Mountain Province, to the tributaries of the Red River drainage in Arkansas and eastern Oklahoma, USA (Fitzpatrick 1965). Found in clear rocky streams of the upper Little River system in AR & OK (Hobbs 1989).

**Taxa Association Team and Peer Reviewers**

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes macrus*

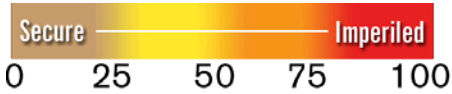
Neosho Midget Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **23** out of 100



Population Trend: Unknown

Gobal Rank: G4 — Apparently secure species

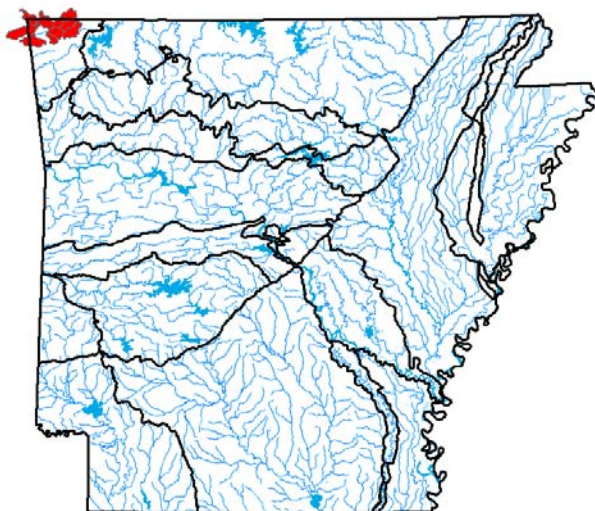
State Rank: S2 — Imperiled in Arkansas



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**Distribution**

Occurrence Records



Ecoregions where the species occurs:

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

## Ecobasins

Ozark Highlands - Arkansas River

Habitats	Weight
Natural Pool: Headwater - Small	Suitable
Natural Riffle: Headwater - Small	Optimal
Natural Run: Headwater - Small	Optimal
Natural Spring Run: Headwater	Suitable

## Problems Faced

Threat: Habitat destruction  
Source: Urban development

Threat: Habitat disturbance  
Source: Resource extraction

Threat: Sedimentation  
Source: Forestry activities

Threat: Sedimentation  
Source: Road construction

Threat: Sedimentation  
Source: Urban development

## Data Gaps/Research Needs

Identify habitat requirements and threats.

Survey for additional populations.

Conservation Actions	Importance	Category
Encourage sediment control BMPs during development.	Medium	Habitat Protection
Maintain riparian vegetation.	Medium	Habitat Protection
Stabilize eroding streambanks.	Medium	Habitat Restoration/Improvement

## Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

## Comments

Description: a diminutive crayfish (maximum 2 inch total length), tan with a black or olive saddle and sometimes dark brown or black speckles (Pflieger 1996, Brian K. Wagner, personal communication).

Inhabits clear gravelly streams of the Arkansas River drainage in extreme northwest Arkansas and adjacent states (Pflieger 1996). The separation between *O. macrus* and *O. nana* was studied by Dillman et al. 2010 and distinctness of the species was strongly supported.

## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes marchandi*

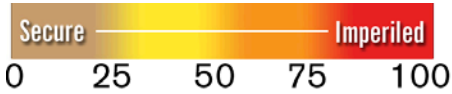
Mammoth Spring Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **46** out of 100



Population Trend: Unknown

Gobal Rank: G2 — Imperiled species

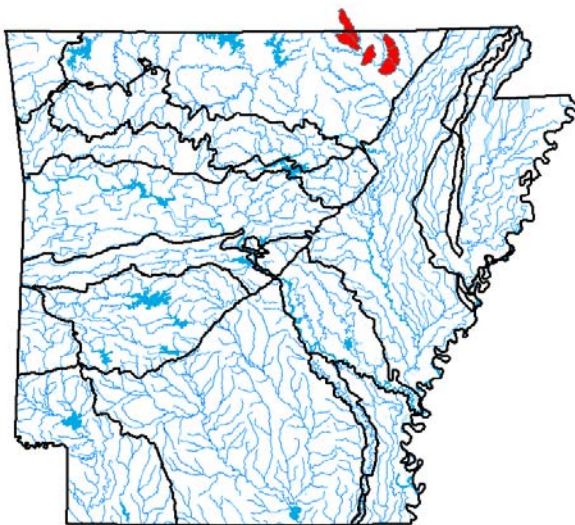
State Rank: S2 — Imperiled in Arkansas



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**Distribution**

**Occurrence Records**



Ecoregions where the species occurs:

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



## Ecobasins

Ozark Highlands - White River

Habitats	Weight
Natural Pool: - Small - Medium	Marginal
Natural Riffle: - Small - Medium	Optimal
Natural Run: - Small - Medium	Suitable

## Problems Faced

Threat: Biological alteration  
Source: Exotic species

Threat: Chemical alteration  
Source: Recreation

Threat: Riparian Habitat Destruction  
Source: Channel alteration

Threat: Sedimentation  
Source: Recreation

## Data Gaps/Research Needs

Assess risk from potential introduced species.

Examine population genetics and gene flow between potentially isolated populations.

Resurvey known populations.

Survey for additional populations.

Conservation Actions	Importance	Category
Maintain or, where necessary, restore water quality and stream habitat.	Medium	Habitat Restoration/Improvement
Prevent additional introductions of crayfishes.	High	Threat Abatement

## Monitoring Strategies

Monitor known occurrences.

Monitor spread of introduced crayfish in Spring River basin.

## Comments

Description: a medium-sized reddish brown crayfish (Pflieger 1996)

This crayfish occupies clear streams with gravel or rubble substrate (Pflieger 1996), but is also found in high numbers in pools and spring fed streams (Dukat and Magoulick 1999). In some parts areas it occurs in higher numbers in non-permanent habitats (Flinders and Magoulick 2003).

This crayfish has a very limited distribution in the Spring River and its tributaries in three counties of Arkansas and Missouri (Pflieger 1996). Introduced ringed crayfish may adversely affect the species (Dan Magoulick, personal communication). Flinders and Magoulick (2005) studied distribution, habitat use, and life history of the species.

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## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes meeki brevis*

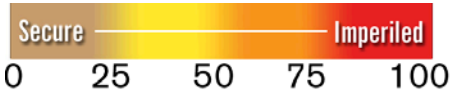
Meek's Short Pointed Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **30** out of 100



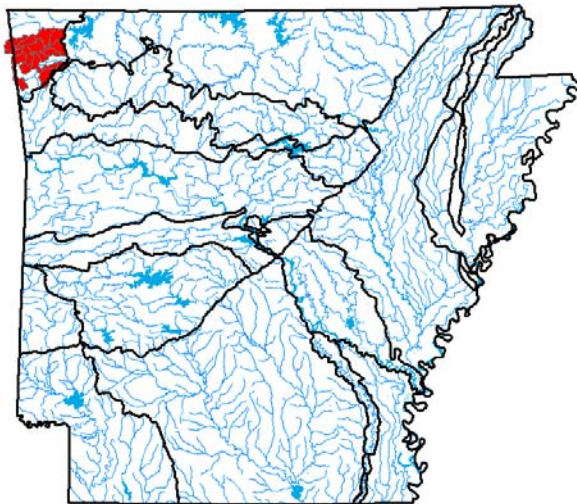
Population Trend: Unknown

Gobal Rank: G4T3 — Apparently secure (vulnerable subspecies)

State Rank: S2 — Imperiled in Arkansas

**Distribution**

**Occurrence Records**



Ecoregions where the species occurs:

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

## Ecobasins

Ozark Highlands - Arkansas River

Habitats	Weight
Natural Pool: Headwater - Small	Data Gap
Natural Riffle: Headwater - Small	Data Gap
Natural Run: Headwater - Small	Data Gap

## Problems Faced

Threat: Habitat destruction  
Source: Urban development

Threat: Nutrient loading  
Source: Urban development

Threat: Sedimentation  
Source: Road construction

Threat: Sedimentation  
Source: Urban development

## Data Gaps/Research Needs

Establish genetic status relative to other subspecies.

Identify habitat requirements and threats.

Information is needed on status and distribution rangewide, especially outside of Arkansas.

Survey for additional populations.

Conservation Actions	Importance	Category
Maintain or, where necessary, restore water quality and stream habitat.	Medium	Habitat Protection
Maintain or, where necessary, restore water quality and stream habitat.	Medium	Habitat Restoration/Improvement

## Monitoring Strategies

Monitor known occurrences.

## Comments

Description: a rather plain brown, medium-sized crayfish (Pflieger 1996). Inhabits rocky streams in extreme northwest Arkansas and eastern Oklahoma (Hobbs 1989).

Robison et al. 2009 expanded AR range to 22 sites, prompting recommended change in S rank. Genetic analyses of the difference between this subspecies and the nominate subspecies were inconclusive in resolving the level of relationship between these two taxa.

## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes menae*

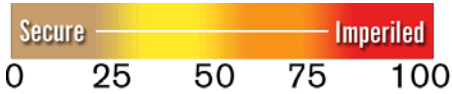
Mena Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **27** out of 100



Population Trend: Stable

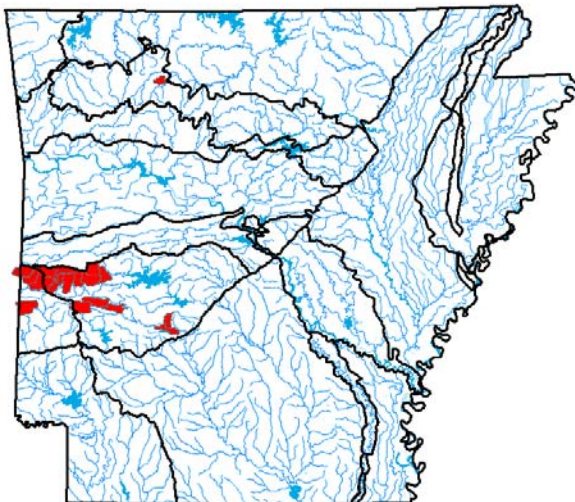
Gobal Rank: G3 — Vulnerable species

State Rank: S3 — Vulnerable in Arkansas



**Distribution**

Occurrence Records



Ecoregions where the species occurs:

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

## Ecobasins

Ouachita Mountains - Ouachita River

Ouachita Mountains - Red River

## Habitats

Natural Pool: - Small - Medium

Natural Riffle: - Small - Medium

Natural Run: - Small - Medium

## Weight

Data Gap

Data Gap

Data Gap

## Problems Faced

Threat: Habitat disturbance

Source: Forestry activities

Threat: Sedimentation

Source: Road construction

## Data Gaps/Research Needs

Survey for additional populations.

## Conservation Actions

Maintain or, where necessary, restore water quality and stream habitat.

Maintain or, where necessary, restore water quality and stream habitat.

## Importance

Medium

Medium

## Category

Habitat Protection

Habitat Restoration/Improvement

## Monitoring Strategies

Monitor known occurrences.

## Comments

Description: a medium-sized olive to brown crayfish (Brian K. Wagner, personal communication). Restricted to four counties in the upper Ouachitas of extreme western Arkansas and eastern Oklahoma (Hobbs 1989).

Robison (2008) found good numbers of this crayfish. Populations persist in Lake DeGray (Brian K. Wagner, personal communication) and possibly other reservoirs. Robison (2008) found *O. menae* under rocks and rubble both in the swifter, shallow runs and the shallow pool margins where rocks had been deposited. Occasionally, they were located in burrows under the largest rocks or at the side of large rocks. It seems they prefer the more shallow pool margins and runs whereas *Orconectes palmeri longimanus* preferred the deeper pool regions.

## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes nana*

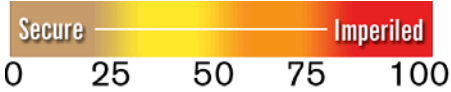
Midget Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **27** out of 100



Population Trend: Unknown

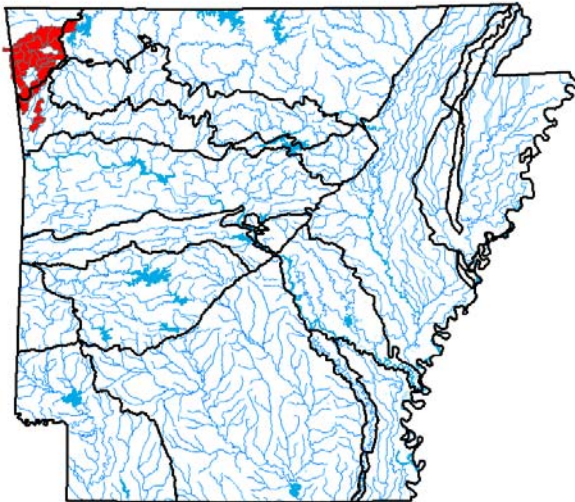
Gobal Rank: G3 — Vulnerable species

State Rank: S3 — Vulnerable in Arkansas



**Distribution**

**Occurrence Records**



Ecoregions where the species occurs:

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

## Ecobasins

Boston Mountains - Arkansas River

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Boston Mountains - White River

---

Ozark Highlands - Arkansas River

---

Ozark Highlands - White River

---

## Habitats

## Weight

Natural Pool: - Small - Medium

Data Gap

Natural Riffle: - Small - Medium

Data Gap

Natural Run: - Small - Medium

Data Gap

## Problems Faced

Threat: Habitat destruction

Source: Urban development

---

Threat: Nutrient loading

Source: Urban development

---

Threat: Sedimentation

Source: Road construction

---

Threat: Sedimentation

Source: Urban development

---

## Data Gaps/Research Needs

Identify habitat requirements and threats.

---

## Conservation Actions

## Importance Category

Maintain or, where necessary, restore water quality and stream habitat.

Medium

Habitat Protection

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a diminutive crayfish (maximum 2 inches long), tan with a dark saddle and may have brown speckles (Chris Taylor, personal communication). Inhabits clear gravelly streams of the Arkansas River drainage in northwest Arkansas and northeast Oklahoma (Williams 1954). The separation between *O. macrus* and *O. nana* was studied by Dillman et al. 2010 and distinctness of the species was strongly supported. Widespread within Illinois River basin small, gravelly streams (Brian K. Wagner, personal communication).

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## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick



*Orconectes neglectus chaenodactylus*

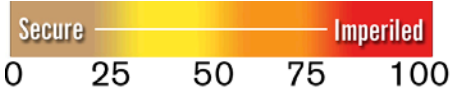
Gapped Ringed Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **20** out of 100



Population Trend: Increasing

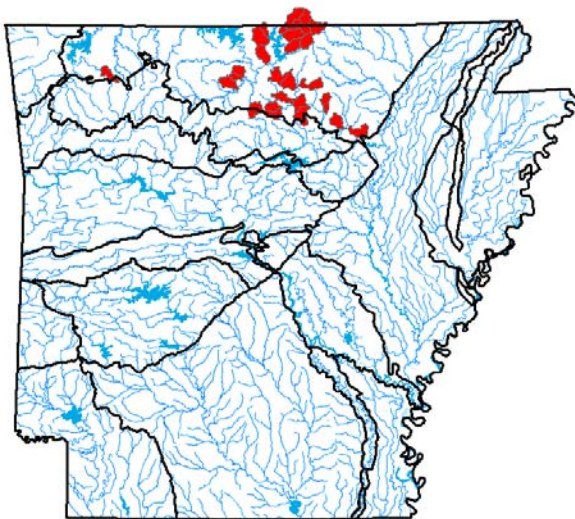
Gobal Rank: G5T3 — Secure (vulnerable subspecies)

State Rank: S3 — Vulnerable in Arkansas



**Distribution**

Occurrence Records



Ecoregions where the species occurs:

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

**Ecobasins**

Ozark Highlands - White River

Habitats	Weight
Natural Pool: Headwater - Small - Medium	Suitable
Natural Riffle: Headwater - Small - Medium	Suitable
Natural Run: Headwater - Small - Medium	Suitable

**Problems Faced**

Threat: Habitat disturbance  
Source: Resource extraction

Threat: Riparian Habitat Destruction  
Source: Road construction

Threat: Sedimentation  
Source: Forestry activities

Threat: Sedimentation  
Source: Road construction

**Data Gaps/Research Needs**

Expand genetic work in order to define taxa within *Orconectes neglectus* group.

Conservation Actions	Importance	Category
Maintain or, where necessary, restore water quality and stream habitat.	Medium	Habitat Restoration/Improvement

**Monitoring Strategies**

Monitor known occurrences.

Monitor spread on introduced populations.

**Comments**

Description: a medium to large, brown crayfish with a dark saddle, a pale band on lower side of abdomen, red-tipped claws with brown or black ring around tip (Pflieger 1996).

This subspecies is restricted to the area from the North Fork White River Basin to Sylamore Creek (Hobbs 1989). This range was examined in more detail by Wagner and others 2010, finding it to be locally abundant. It has recently appeared in the Spring River basin (Dan Magoulick, personal communication) and Eleven Point River Basin (Bob DiStefano, personal communication).

Dillman et al. (2007) examined genetics using the Cytochrome Oxidase I locus and suggested a good deal of unrecognized taxonomic diversity within *O. neglectus*. Further genetic and morphological evidence is needed to corroborate this indication, and descriptions are needed for the possible new species indicated.

**Taxa Association Team and Peer Reviewers**

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

*Orconectes williamsi*

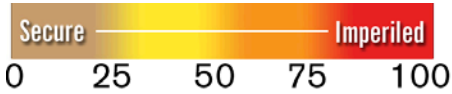
Williams' Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **34** out of 100



Population Trend: Unknown

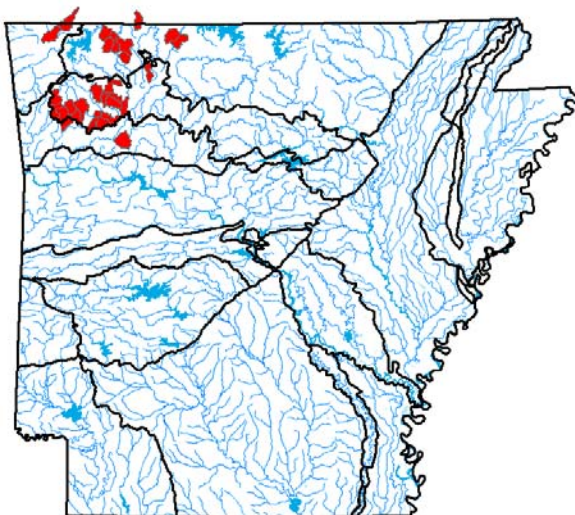
Gobal Rank: G3 — Vulnerable species

State Rank: S1 — Critically imperiled in Arkansas



**Distribution**

**Occurrence Records**



Ecoregions where the species occurs:

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

## Ecobasins

Boston Mountains - Arkansas River

---

Boston Mountains - White River

---

Ozark Highlands - Arkansas River

---

Ozark Highlands - White River

---

## Habitats

### Weight

Natural Pool: Headwater - Small

Suitable

Natural Riffle: Headwater - Small

Suitable

Natural Run: Headwater - Small

Optimal

Natural Spring Run: Headwater - Small

Optimal

## Problems Faced

Threat: Habitat destruction  
Source: Urban development

---

Threat: Habitat disturbance  
Source: Resource extraction

---

Threat: Habitat disturbance  
Source: Road construction

---

Threat: Nutrient loading  
Source: Urban development

---

## Data Gaps/Research Needs

Examine population genetics, particularly any differences between Boston Mountain and Ozark Plateau populations.

---

Survey for additional populations.

---

## Conservation Actions

### Importance Category

Maintain or, where necessary, restore water quality and stream habitat.

Medium

Habitat Protection

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a small crayfish (shorter than 2 inches long) that is gray to tan in color with a vase shaped pale zone on the carapace (Plieger 1996).

This species has localized occurrences in small headwater creeks of the upper White River basin. The number of known populations has been significantly increased through recent work (Wagner et al. 2010, Westhoff et al. 2006) but populations remain localized.

This species has become fragmented in recent years due to the development of reservoirs (Westhoff et al. 2006). In the White River portion of its range in Missouri, lead and gravel mining and urbanization continue to threaten species that inhabit this river system (Westhoff et al. 2006).

---

## Taxa Association Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## Aquatic Habitats

Natural Groundwater: - Small	Suitable
Natural Pool: - Small	Data Gap
Natural Riffle: - Small	Data Gap

## Problems Faced

Threat: Groundwater depletion  
 Source: Excessive groundwater withdrawal

Threat: Habitat destruction  
 Source: Road construction

Threat: Toxins/contaminants  
 Source: Agricultural practices

## Data Gaps/Research Needs

Determine habitat requirements and threats.

Survey for additional populations.

## Conservation Actions

Protect known occurrences from construction activities and herbicide applications.

### Importance Category

Medium      Habitat Protection

## Monitoring Strategies

Monitor known occurrences.

## Comments

Description: a tan crayfish, 30 to 40mm in carapace length (Hobbs and Robison 1982).

Robison and others (2009) reported the species from 41 localities, including 9 new locations, in 14 counties. The species is widespread, but uncommonly encountered due to its sporadic distribution and burrowing habit.

Robison and others (2009) state that "Procambarus parasimulans is a primary burrower, i.e. it burrows all year long in one place and rarely exits except during the breeding season when males search for females. This species was never collected in static open water in fields or in ditches with standing water, but rather normally inhabits only burrows. Burrowers tended to be simple in construction and depths of capture ranged from 1-2.5 feet. Soils where burrows were found tended to be of a sandy clay without standing water. Very infrequently, adults wander out into floodplain areas and into temporary pools and backwater pools of small pools."

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Procambarus parasimulans*

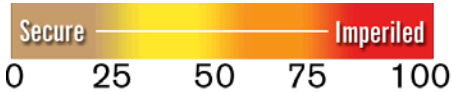
### Bismark Burrowing Crayfish

**Class:** Malacostraca

**Order:** Decapoda

**Family:** Cambaridae

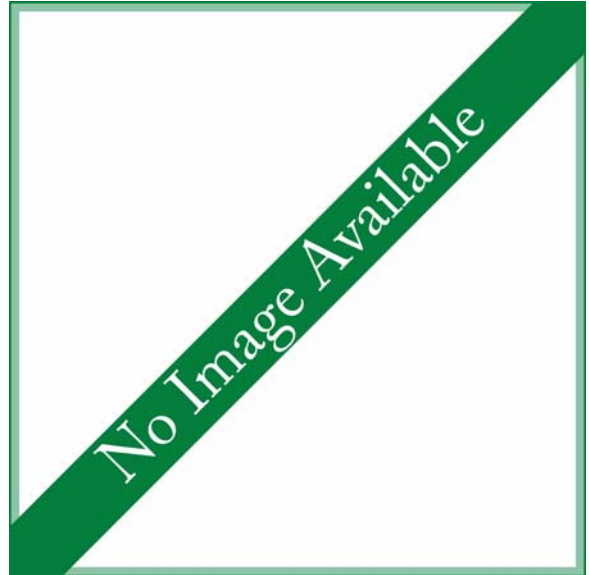
**Priority Score:** 19 out of 100



**Population Trend:** Unknown

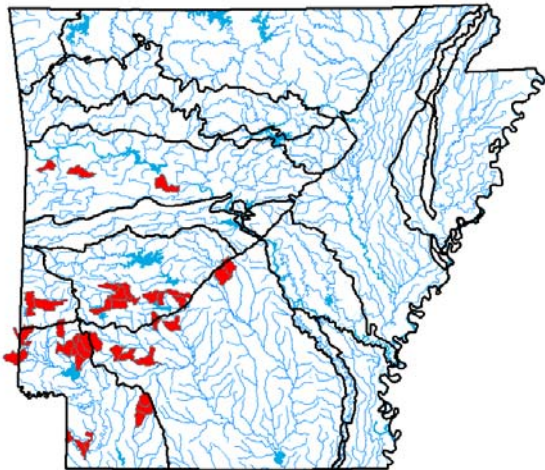
**Global Rank:** G4 — Apparently secure species

**State Rank:** S3 — Vulnerable in Arkansas



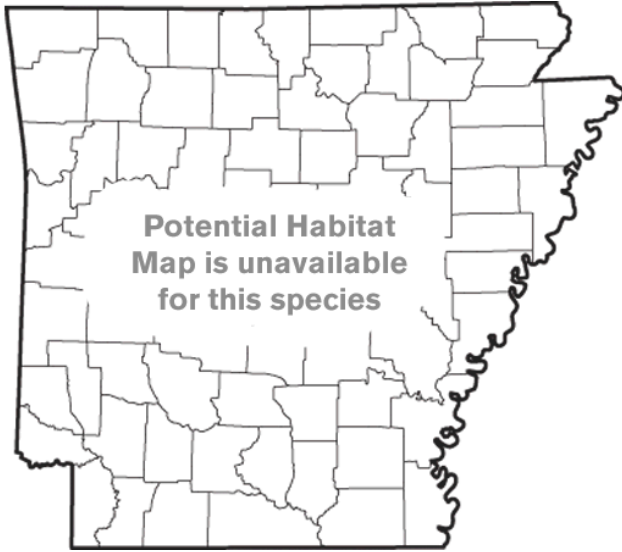
## Distribution

### Element Occurrence Records

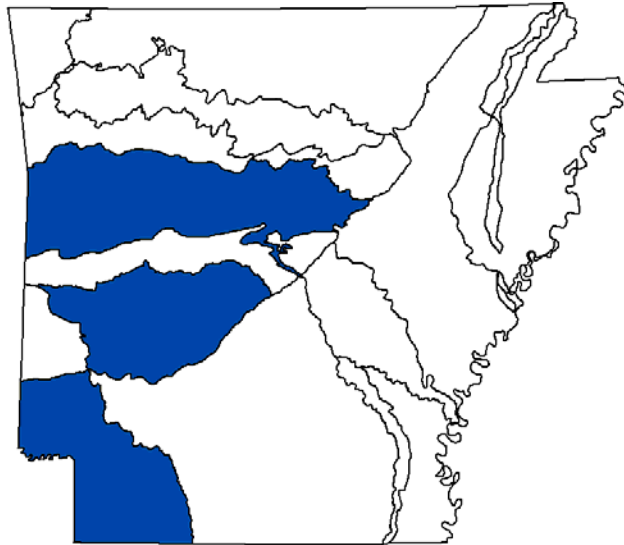


Ecoregions where the species occurs:

- 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

Ouachita Mountains - Ouachita River

Ouachita Mountains - Red River

South Central Plains - Ouachita River

South Central Plains - Red River



## *Procambarus regalis*

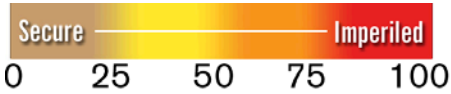
### Regal Burrowing Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **38** out of 100



Population Trend: Unknown

Global Rank: G2G3 — Imperiled (uncertain rank)

State Rank: S2 — Imperiled in Arkansas



## Distribution

### Element Occurrence Records

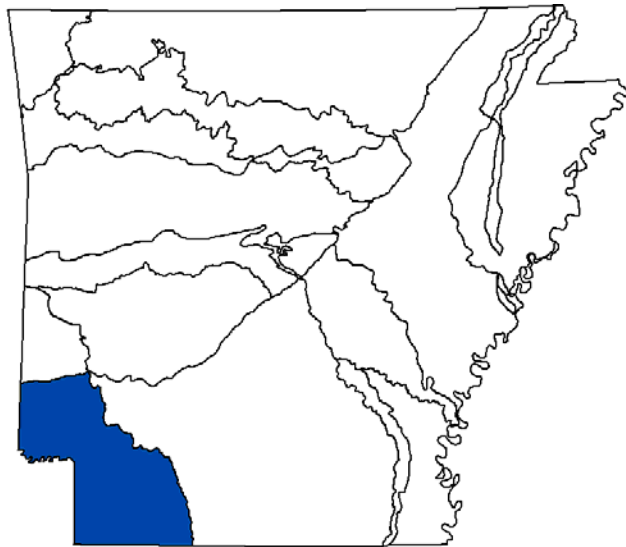


Ecoregions where the species occurs:

- 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**

South Central Plains - Red River

**Terrestrial Habitats**

West Gulf Coastal Plain Seepage Swamp and Baygall      Suitable

**Aquatic Habitats**

Natural Groundwater:      Data Gap

Natural Seep: Headwater - Small      Suitable

## Problems Faced

Threat: Chemical alteration  
Source: Road construction

---

Threat: Habitat destruction or conversion  
Source: Road construction

---

## Data Gaps/Research Needs

Assess sensitivity to environmental stresses.

---

Conduct distribution surveys and life history studies.

---

Determine taxonomic status.

---

## Conservation Actions

Protect known occurrences from construction activities and herbicide applications.

---

### Importance Category

Medium      Habitat Protection

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a medium-sized brownish red and orange burrowing crayfish (Robison and Allen 1995).

Inhabits simple burrows in colonies that may be extremely large, in southwestern Arkansas (Hobbs and Robison 1988). Robison and Crandall (2007) found the species to occupy 14 locations confined to 2 counties in the state.

This species may in fact be synonymous with *Procambarus steigmani*, in which case the range of this species would be increased significantly and would make this species of Least Concern (Crandall and Johnson 2010). Further research on the taxonomy of this species is needed to clarify taxonomic status before a more accurate assessment of conservation status can be made.

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## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Procambarus reimeri*

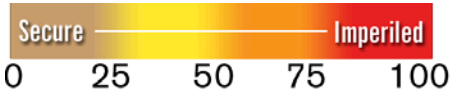
### Irons Fork Burrowing Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **80** out of 100



Population Trend: Stable

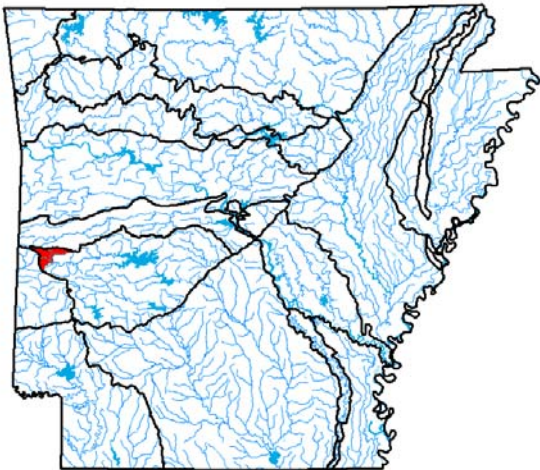
Global Rank: G1 — Critically imperiled species

State Rank: S1 — Critically imperiled in Arkansas



## Distribution

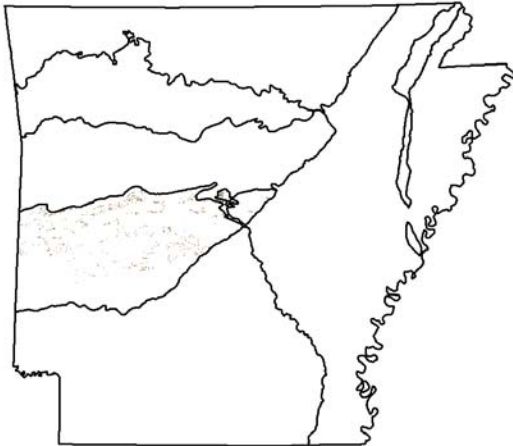
### Element Occurrence Records



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**

Ouachita Mountains - Ouachita River

**Terrestrial Habitats**

Ozark-Ouachita Forested Seep	Suitable
Ozark-Ouachita Riparian	Data Gap

**Aquatic Habitats**

Natural Groundwater:	Suitable
Natural Seep: Headwater - Small	Suitable

## Problems Faced

Threat: Habitat destruction or conversion  
Source: Forestry activities

---

Threat: Habitat destruction or conversion  
Source: Urban development

---

Threat: Habitat destruction  
Source: Road construction

---

Threat: Toxins/contaminants  
Source: Forestry activities

---

## Data Gaps/Research Needs

Identify habitat requirements and threats.

---

Survey for additional populations.

---

## Conservation Actions

### Importance Category

Protect known occurrences from construction activities and herbicide applications.

Medium

Habitat Protection

---

Protect known occurrences from construction activities and herbicide applications.

Medium

Threat Abatement

---

## Monitoring Strategies

Monitor known occurrences.

---

## Comments

Description: a pinkish cream-colored burrowing crayfish (Robison and Allen 1995).

Known from six localities in the Ouachita River basin of Polk county (Hobbs and Robison 1988). Robison (2008) found this species to be stable, but restricted to a limited localized area in Polk County. Rhoden et al. 2016 are currently studying this species in an attempt to model distribution based on habitat characteristics.

Robison (2008) found this species in wet seepage areas and roadside ditches with a sandy clay soil substrate. Specimens of *P. reimeri* were found in burrows from one-half meter to a meter and a half adjacent to the road or highway. Juveniles were collected in standing water at the edge of a gravel road.

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick

## *Procambarus tenuis*

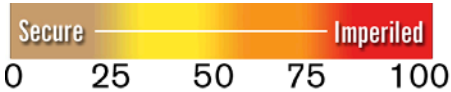
### Ouachita Mountain Crayfish

Class: Malacostraca

Order: Decapoda

Family: Cambaridae

Priority Score: **31** out of 100



Population Trend: Unknown

Global Rank: G3 — Vulnerable species

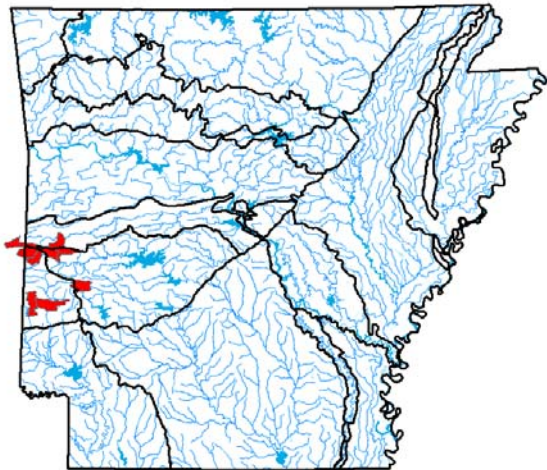
State Rank: S2 — Imperiled in Arkansas



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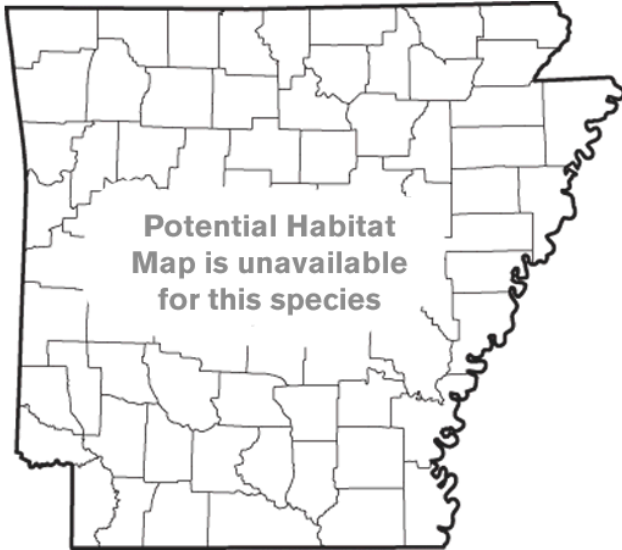
## Distribution

### Element Occurrence Records

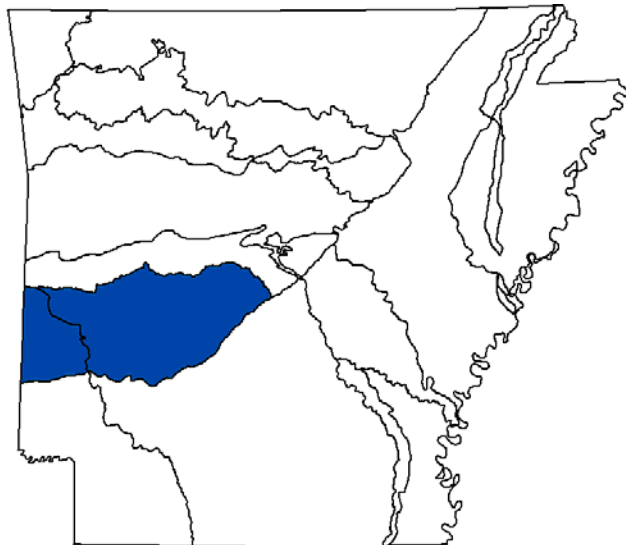


Ecoregions where the species occurs:

- 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**

Ouachita Mountains - Arkansas River

Ouachita Mountains - Ouachita River

Ouachita Mountains - Red River

**Terrestrial Habitats**

Ozark-Ouachita Forested Seep

Data Gap



## Aquatic Habitats

Natural Groundwater:	Data Gap
Natural Pool: - Small	Suitable
Natural Riffle: - Small	Suitable
Natural Run: - Small	Suitable
Natural Seep:	Data Gap

## Problems Faced

Threat: Habitat destruction  
Source: Resource extraction

Threat: Habitat disturbance  
Source: Road construction

Threat: Riparian Habitat Destruction  
Source: Forestry activities

Threat: Toxins/contaminants  
Source: Forestry activities

## Data Gaps/Research Needs

Identify habitat requirements and threats.

Survey for additional populations.

## Conservation Actions

Protect known occurrences from construction activities and herbicide applications.

### Importance Category

Medium      Habitat Protection

## Monitoring Strategies

Monitor known occurrences.

## Comments

Occurs in and adjacent to springs and clear cool streams in the Ouachitas of extreme western Arkansas and eastern Oklahoma (Hobbs 1989). Robison (2008) confirmed that this is an uncommon Ouachita mountain endemic with small populations.

Robison (2008) found this crayfish to be a species of small first and second order streams which primarily lived beneath rocks. It was also found in springs and spring run-off in several localities in the Ouachita Mountains. Oftentimes, *P. tenuis* was the only crayfish species living in the smaller spring-fed, first order and second order streams.

## Taxa Team and Peer Reviewers

AGFC Mr. Brian Wagner, UA Dr. Daniel Magoulick