

## ***Hobbseus prominens*** (Hobbs) 1966

Prominence riverlet crayfish



Photo by C. Lukhaup.

### **Distribution, Habitat, and Behavior**

*Hobbseus prominens* is the only *Hobbseus* species with a range known to extend beyond the state of Mississippi (Hobbs 1989). Fitzpatrick (2002) included only Kemper County in the Mississippi portion of the range, but the species has been found recently in Chickasaw County (MS crayfish database, this website).

Hobbs (1966) presumed that the species was a secondary burrower because all of the specimens collected for the species description were dug from burrows in a drying roadside ditch. The ditch contained sedges and grasses, and the substrate consisted of sandy clay soil pliable enough that the burrows riddling the substrate could be dug out with one's hands (Hobbs 1966). Records for the species in the MS crayfish database (this website) are all from creeks. The two creeks where the species was collected in Chickasaw County both had clay and sand substrate and a hardwood tree riparian zone.

### **Life Colors and Distinctive Characters**

The following character descriptions are adapted from Hobbs (1966). The rostrum is nearly flat or slightly excavated, the acumen is either lacking or distinct but short, and marginal spines are lacking. The postorbital ridges lack spines, and no cervical spines are present. The areola is open, with space for 3 punctations in the narrowest part. The antennal scale is rounded and is widest just distal of the midpoint. As in other *Hobbseus*, the mesial margin of the palm of the chela has a cristiform row of tubercles. In the form I male gonopod, the central projection and slender mesial process recurve at angles of 110 and 100 degrees, respectively. Form I males have strong, simple hooks on the third pair of pereopods (legs). The annulus ventralis is moveable and forms a rounded point at each mid-lateral margin. The sinus originates caudal to an elevated rim along the cephalic margin of the annulus ventralis, extends briefly caudally at an angle and then turns 90 degrees and extends toward, but does not intersect the caudal margin. The epistome is subtriangular.

## Size

The three type specimens had carapace lengths ranging from 15.5 to 20.0 mm (Hobbs 1966).

## Most Like

*Hobbseus prominens* looks superficially similar to all other *Hobbseus* species. Form I male *H. prominens* differ from *H. attenuatus*, *H. cristatus*, *H. orconectoides*, and *H. petilus* in having the terminal elements of the gonopods curved caudally at greater than 90 degrees. Both *H. valleculus* and *H. yalobushensis* have terminal elements of the gonopod curved at greater than 90 degrees, similar to *H. prominens*, but *H. prominens* has a narrower areola (Table 1).

*H. prominens* is most similar to *H. valleculus*, but differs primarily in characteristics of the chelae, epistome, male form I gonopod, and female annulus ventralis. The terminal elements of the gonopods in *H. valleculus* are longer and more sharply bent caudad, but the bend in central projection is less sharp cephalically making the cephalic margin curve more smoothly (Fitzpatrick 1967). In female *H. prominens*, the annulus ventralis has relatively acute angles on the lateral margins, and the sinus makes an approximately 90 degree turn in the cephalic third of the annulus ventralis and does not reach the caudal margin. In *H. valleculus*, the sinus recurves much more sharply than 90 degrees and continues to the caudal margin of the annulus ventralis. *H. prominens* has a subtriangular epistome with elevated margins (Hobbs 1966). In *H. valleculus*, the epistome is more rectangular than in *H. prominens*.

Fitzpatrick and Busack (1989) summarized differences between *H. yalobushensis* and *H. prominens* as follows. *H. yalobushensis* differs in that the form I gonopod terminal elements do not diverge from each other, and the mesial process is equal in length or only slightly longer than the central projection rather than much longer as in *H. prominens*. Unlike *H. prominens*, female *H. yalobushensis* have a “well-developed, broad, long trough in the annulus ventralis. Finally, the chelae differ in having “comparatively heavy, non-uniform tuberculate ornamentation on the dorsal surface of the palm of the chela

Table 1. Ratio of areola length to width in three similar *Hobbseus* species.

Species	Range of areola length:width ratios	Source
<i>Hobbseus prominens</i>	4.6 - 5.7	(Hobbs 1966)
<i>Hobbseus valleculus</i>	3.31 - 4.75	(Fitzpatrick 1967)
<i>Hobbseus yalobushensis</i>	1.75 - 2.73	(Fitzpatrick and Busack 1989)

## Life History

Form I males have been collected in Mississippi from late March to early June, and one juvenile was collected in late March (MS crayfish database, this website). At the type

locality in Alabama, form I males were collected in April (Hobbs 1966). Nothing else is known about the species' life history.

## **Crayfish Associates**

Crayfish species collected with *H. prominens* in a roadside ditch included *Cambarus diogenes*, *Procambarus acutus acutus*, and *P. hybus* (Hobbs 1966) and in two streams included *C. striatus* and *Orconectes chickasawae* (MS crayfish database, this website).

## **Conservation Status**

American Fisheries Society ranking: Considered Stable.

Heritage global ranking: G4,G5 (apparently or demonstrably widespread, abundant, and secure).

State of Mississippi: Tier 2 (in need of timely conservation action and/or research)(MDWFP 2005).

See (Taylor et al. 2007) for further explanation of American Fisheries Society and Heritage rankings.

## **Species Description**

Originally described as *Cambarus prominens*.

Hobbs, H. H., Jr. 1966. A new crayfish from Alabama with observations on the *Cristatus* section of the genus *Cambarus* (Decapoda, Astacidae). Proceedings of the Biological Society of Washington 79:109-116.

## **Literature Cited**

Fitzpatrick, J. F., Jr. 2002. The conservation status of Mississippi crawfishes (Crustacea: Decapoda: Cambaridae). Louisiana Academy of Sciences 63:25-36.

Fitzpatrick, J. F., Jr. . 1967. A new crawfish of the *Cristatus* section of the genus *Cambarus* from Mississippi (Decapoda, Astacidae). Proceedings of the Biological Society of Washington 80:163-168.

Fitzpatrick, J. F., Jr. and C. A. Busack. 1989. *Hobbseus yalobushensis*, a new crawfish from central Mississippi (Decapoda: Cambaridae). Proceedings of the Biological Society of Washington 102:637-643.

Hobbs, H. H., Jr. 1966. A new crayfish from Alabama with observations on the *Cristatus* section of the genus *Cambarus* (Decapoda, Astacidae). Proceedings of the Biological Society of Washington 79:109-116.

Hobbs, H. H., Jr. 1989. An illustrated checklist of the American crayfishes (Decapoda: Astacidae, Cambaridae, and Parastacidae). Smithsonian Contributions to Zoology 480:1-236.

MDWFP, Mississippi Department of Wildlife, Fisheries, and Parks. 2005. Appendix VIII: Mississippi's species of greatest conservation need by ecoregion. Pages

375-380 Mississippi's Comprehensive Wildlife Conservation Strategy 2005-2015, version 1.1, Jackson, MS (<http://home.mdwfp.com/more.aspx>).

Taylor, C. A., G. A. Schuster, J. E. Cooper, R. J. DiStefano, A. G. Eversole, P. Hamr, H. H. Hobbs, III, H. W. Robison, C. E. Skelton, and R. F. Thoma. 2007. A reassessment of the conservation status of crayfishes of the United States and Canada after 10+ years of increased awareness. *Fisheries* 32:372-389.

**Fact sheet author**

Susan B. Adams

**Revision date and version**

14 October 2008, version 1.0

**Recommended citation**

Adams, S. B. 2008. *Hobbseus prominens*. Version 1.0. USDA Forest Service, Crayfishes of Mississippi website, Oxford, MS. (URL)