

Pine Savannah Crayfish

Cambarus reflexus

Contributor (2005): Jennifer Price (SCDNR)

Reviewed and Edited (2012): William Poly (SCDNR)

DESCRIPTION

Taxonomy and Basic Description

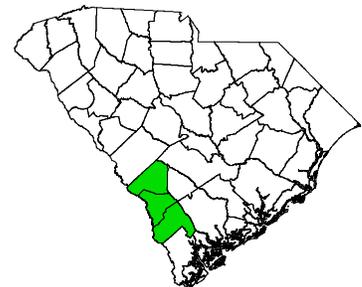
Cambarus reflexus has a reddish-orange-tan carapace, a dark first abdominal segment, and progressively lighter segments approaching the pinkish tail. It has broad, triangular, orange-brown chelae and small eyes (Hobbs 1981).

Status

NatureServe (2011) currently identifies *C. reflexus* as imperiled (S2) in Georgia and vulnerable (S3) in South Carolina. The global ranking of apparently secure (G4) may need to be updated to reflect its rarity in those two states. The species was considered to be currently stable in Georgia and South Carolina by Taylor et al. (2007). According to Welch (2007), the species' current global status of "currently stable" and "vulnerable" in South Carolina likely underestimates its level of imperilment.

POPULATION SIZE AND DISTRIBUTION

In South Carolina, *C. reflexus* has been found in Allendale, Hampton, and Barnwell Counties. Hobbs (1989) also lists the distribution as extending to the Santee Basin, but its presence in this basin has not been confirmed by recent collections and there could be some misidentified specimens associated with some of these records. Several historical locations were visited by Welch (2007) and the species was not detected, suggesting the species may be extirpated from portions of its historical range.



HABITAT AND NATURAL COMMUNITY REQUIREMENTS

C. reflexus is a very terrestrial, obligate burrower and is restricted to flatwoods longleaf pine forests of the Savannah and Ogeechee River Basins of the Coastal Plain in South Carolina and Georgia (A. Eversole, pers. comm.). The species also occurs in burrows and underneath logs in low-lying seepage and boggy areas characterized by black soil, and it can be found in mixed hardwood and swamp forests (Hobbs et al. 1976, Hobbs 1981, W. Poly pers. obs.).

CHALLENGES

Further survey work is needed for *C. reflexus*. This species appears to be rare; with its limited distribution, *C. reflexus* warrants significant habitat protection. However, the species occurs in an

area of South Carolina that has a low human population that has decreased, unlike in other areas undergoing urbanization.

CONSERVATION ACCOMPLISHMENTS

A habitat modeling study was done on this species by Welch (2007). The presence of wiregrass was the most important habitat component measured in the study. The importance of wiregrass and stand age indicated that *C. reflexus* was associated with “high quality” fire-maintained pine savanna habitats. Furthermore, the study suggested that *C. reflexus* was limited to these sites and thus could be included as an invertebrate component used to identify “high quality” pine savanna habitats for conservation and restoration. The species appears to be limited to the Coastal Plain in South Carolina and sensitive to soil surface disturbances.

CONSERVATION RECOMMENDATIONS

- Conduct surveys to determine the extent of the range of *C. reflexus*. In particular, focus on appropriate habitat between the Savannah and Santee River Basins, where the species was reported previously.
- Conduct research to determine the natural history and population status of *C. reflexus*.
- Determine the importance of alterations to the groundwater table to the population stability of *C. reflexus*.
- Investigate the need to initiate the process of achieving South Carolina special concern status for *C. reflexus*.
- Maintain remnant pine savanna stands containing *C. reflexus* with prescribed burns. Restoration efforts should focus on stands adjacent to *C. reflexus* colonies and restore savanna vegetation structure.
- Develop and conduct landowner and general education programs that stress the unique nature of terrestrial burrowing crayfish and their importance in South Carolina.

MEASURES OF SUCCESS

The collection of data that better describes the natural history and population status of *C. reflexus* may be considered a measure of success. Completion of groundwater investigations and the determination of recommendations to protect Pine Savannah Crayfish would also be considered a sign of success. Assessing participation in education programs would assist in measuring the success of these programs.

LITERATURE CITED

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