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The Cajun Dwarf Crawfish (*Cambarellus shufeldtii*): An Intermediate Host for *Southwellina dimorpha* (Acanthocephala)

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Southwellina dimorpha Schmidt, 1973 (Polymorphidae: Acanthocephala) was originally described from juveniles and adults from the white ibis (*Eudocimus albus*) in Florida and cystacanths from cultured red crawfish, *Procambrus clarki*, from Pecan Island, Vermilion Parish, Louisiana (Schmidt (1973). The specific epithet refers to the fact that the female has 1 field of trunk spines whereas the male has 2.

Southwellina dimorpha has also been reported from *P. clarki* from St. James Parish, Louisiana (Lantz 1974). *Southwellina dimorpha* is known only from the 2 species of birds the white ibis and the whooping crane, *Grus americana* (United States National Parasite Collection USNPC 090666), from Florida. Although infrequently reported, *S. dimorpha* may occur in high enough prevalence in crawfish intermediate hosts to have a commercial impact. The survey of Lantz (1974) of *P. clarki* in 2 ponds in St. James Parish, Louisiana, was initiated when crawfish buyers in New Orleans reported the presence of a parasite which appeared as "a pinkish grain of rice near the junction of the abdominal muscle and the cephalothorax," in stock purchased from St. James Parish. Examination of 385 *P. clarki* revealed a prevalence of infection of 46% with infection intensity ranging from 1 to 79 cystacanths per crawfish, usually 1-11. Based on anecdotal evidence, Lantz (1974) suggested that complete dewatering of pond soils for a minimum of 2 months each summer may reduce the incidence of *S. dimorpha* infections.

On 3 March 2005, cystacanths of *S. dimorpha* were collected from hemocoels of 2 of 44 (4.5%) Cajun dwarf crawfish, *Cambarellus shufeldtii*, collected at Head of Island, Ascension Parish, Louisiana (30°15.769'N 90°43.325'W). One specimen, a 24 mm long male, was infected with 2 cystacanths, and another specimen, a 23 mm long male, was infected with 1 cystacanth. Cystacanths were placed in tap water to allow the proboscides to become everted, stained with acetocarmine, mounted in Canada balsam and examined by light microscopy. Voucher specimens were deposited in the Harold W. Manter Laboratory, University of Nebraska State Museum, Lincoln, Nebraska (HWML48464). No infections were found in an additional 298 individuals of *C. shufeldtii* collected from the same site on 14 June 2005. None of 417 *C. shufeldtii* collected on 16 June 2005 from the Honey Island Swamp region of St. Tammany Parish, Louisiana, were infected.

Only 4 other species of acanthocephalans have been

reported from crawfish (Evans et al. 2002), although various species within the family Polymorphidae utilize crabs as intermediate hosts (Schmidt and Kuntz 1967, Schmidt 1985). *Polymorphus biziuræ* was reported from *Cherax destructor* in South Australia (Johnson and Edmonds 1948, O'Donoghue et al. 1990), *Polymorphus minutus*, which normally utilizes an amphipod intermediate host, has been reported from European crawfish by Siebold (1835), and *Cambarus affinis* (Golvan 1961, Schmidt 1985) and *Polymorphus formosus* were reported from freshwater crawfish, *Macrobrachium* sp., in Taiwan (Schmidt and Kuntz 1967). In North America, the only other report of acanthocephalans occurring in crawfish was by Merritt and Pratt (1964) who found cystacanths of *Neoechinorhynchus rutili* in 3 of 154 (2%) crawfish, *Pacifastacus trowbridgi*. *Neoechinorhynchus rutili* normally utilizes an ostracod intermediate host, leading Merritt and Pratt (1964) to suggest that crawfish were serving as paratenic hosts for this parasite, becoming infected by ingestion of infected ostracods. The viability of acanthocephalan cystacanths from crawfish has never been tested.

This report extends the known intermediate host range of *S. dimorpha* to include a second species of crawfish *C. shufeldtii* and constitutes the first report of an acanthocephalan from a crawfish of the genus *Cambarellus*.

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