

## Revision of the thamnocephalid Genus *Phallocryptus* (Crustacea; Branchiopoda; Anostraca)

D. CHRISTOPHER ROGERS

*EcoAnalysts, Inc. 166 Buckeye Street, Woodland, CA 95695 USA; crogers@ecoanalysts.com*

### Abstract

The family Thamnocephalidae and the genus *Phallocryptus* are defined using modern standards in anostracan taxonomy. The genus *Phallocryptus* is revised to include three species. Two species formerly considered as *Branchinella* (*B. spinosa* and *B. sublettei*), are demonstrated to have the same basic genital morphology as *Phallocryptus wrighti* (Smirnov). *Phallocryptus* has a distribution that suggests that this genus originated sometime in the Paleozoic. A key to the species of *Phallocryptus* is presented, and the family Thamnocephalidae is redefined.

**Key words:** Anostraca, Thamnocephalidae, *Phallocryptus*, *Branchinella*, genus concept

### Introduction

The family Thamnocephalidae, most particularly the genus *Branchinella*, has long been a dumping ground for anostracans with dubious affinities. For more than 50 years the Thamnocephalid species were divided among genera based upon three criteria: species with paddle shaped cercopods were *Thamnocephalus*, species where the male first thoracopods are modified were *Dendrocephalus*, and everything else was *Branchinella*. Brtek (1995) using male genital morphology demonstrated that *Phallocryptus* Birabén, 1951, belonged to the Thamnocephalidae (verses the Chirocephalidae). Linder (1941), Brtek (1996) and Brendonck (1997) have all stressed the need for a close revision of this family.

Brendonck (1997), Brendonck & Riddoch (1997), and Brendonck & Belk (1997) noted the difference in male genital morphology between various “*Branchinella*” species, and suggested that the genus as it then stood might be polyphyletic. In this revision I recognize three species of *Phallocryptus*, two of which were formerly considered to be *Branchinella*.