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Silversides of the genus *Labidesthes* (Atheriniformes: Atherinopsidae)

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Abstract

The two species of *Labidesthes*, *L. sicculus* and *L. vanhyningi*, are herein redescribed. *Labidesthes sicculus* is separated from *L. vanhyningi* by the presence of an anterolateral process of the post temporal that is longer than it is wide (versus wider than long), a ratio of thoracic length to abdominal length greater than two (versus less than two), and a midlateral stripe that is narrows in front of first dorsal fin (versus expanding in front of first dorsal fin). *Labidesthes sicculus* is found in Gulf of Mexico drainages from the Brazos River East to the Pascagoula River, Mississippi River (absent in middle and upper Missouri River), and Great Lakes-St. Lawrence River (absent in Lake Superior). *Labidesthes vanhyningi* is found in Gulf Mexico drainages from the Neches River East around peninsular Florida North on the Atlantic Coast to the Pee Dee River, in the Mississippi River it is confined to lowland areas of the Lower Mississippi River.

Key words: Silverside, Menidiini, Menidiinae, North America

Introduction

Labidesthes sicculus, the brook silverside, is the most widespread freshwater atherinopsid in North America, occurring natively in drainages on the Atlantic slope from the Santee River south to the Everglades, Gulf of Mexico drainages west to Galveston Bay, and the Great Lakes-St. Lawrence River drainage (Fig. 1) (Etnier & Starnes 1993; Page & Burr 2011). Habitat alteration and introductions over the last century have increased the range of *L. sicculus* beyond its native distribution (Lee 1978; Rowe 1992; Marsden *et al.* 2000). Two species have been described within *Labidesthes*, *L. sicculus* (Cope) and *L. vanhyningi* Bean and Reid; however, only *L. sicculus* is currently considered valid.

Labidesthes is a member of the tribe Menidiini within the subfamily Menidiinae of the Atherinopsidae (Chernoff 1986; Dyer & Chernoff 1996). The brook silverside was originally described by Cope (1865) as *Chirostoma sicculum* from specimens collected in the Detroit River, Michigan. Citing differences with *Chirostoma* such as a “duck-like muzzle” (Cope 1870:455) and premaxillaries separated by a medial groove, Cope described the genus *Labidesthes* for the brook silverside. A second species, *L. vanhyningi*, was described by Bean & Reid (1930) from Prairie Creek outside Gainesville, Florida. Bean & Reid (1930), separated *L. vanhyningi* from *L. sicculus* by stating that it was more slender, less compressed, and had a shorter snout, among other characters. In their description of *L. vanhyningi*, Bean & Reid (1930) only included specimens from Alachua County, Florida, and they did not define a range for the new species. Hubbs & Allen (1943, p. 128) considered *L. vanhyningi* a subspecies of *L. sicculus*, noting that it “is a rather poorly defined geographical subspecies.” Hubbs & Lagler (1947) state that *Labidesthes* in the southeast were *L. s. vanhyningi*, and further noted that southwestern populations might represent a third distinct form. Bailey *et al.* (1954) placed *L. vanhyningi* in the synonymy of *L. sicculus* when they found putatively diagnostic characters *sensu* Bean & Reid (1930) of *L. vanhyningi* in populations of *Labidesthes* from Arkansas, and they recommended further investigation before *L. vanhyningi* be reelevated. Rasmussen (1980) summarized developmental differences between his findings and those of other works, and noted that the differences in myomere counts and attachment filaments were clinal, but he cited the need for additional work on different populations to resolve the taxonomy of *Labidesthes*.

While evidence supporting a morphological separation of *Labidesthes* is currently lacking, literature regarding