

Morphological, biochemical, and physiological characterization of flexibacter columnaris isolates from four species of fish

ABSTRACT

Eleven isolates of *Flexibacter columnaris* from channel catfish *Ictalurus punctatus*, blue catfish *I. furcatus*, largemouth bass *Micropterus salmoides*, and fathead minnow *Pimephales promelas* exhibiting clinical signs of columnaris disease were studied. All isolates were confirmed as *F. columnaris* based on their colonial and cellular morphology and on biochemical and physiological characteristics. Although the isolates were from different fish species and different tissues, most of their biochemical characteristics were uniform and were similar to the reference strain of *F. columnaris* (American Type Culture Collection 49512). Slight variations occurred in growth at 15°C, with 0.5% NaCl, and at pH 6 and pH 10. Three phenotypic variations in colony morphology were observed among the isolates, but these were not related to fish species or to tissues of origin.

Keyword: *Flexibacter columnaris*; Isolates; Fish; Colony morphology