ECOLOGY AND ENVIRONMENTAL SCIENCE

Poster presentation

Detection of *Percopsis omiscomaycus* (trout-perch) using eDNA in eastern Kentucky streams.

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Environmental DNA (eDNA) provides an effective, non-invasive method to detect the presence of rare organisms in aquatic systems, provided sufficient molecular tools are available. *Percopsis omiscomaycus* is a small fish with a limited, disjunct distribution in central and eastern Kentucky. We amplified and sequenced a 769 BP region of *Percopsis omiscomaycus* cytochrome b and used this sequence to design eDNA primers that selectively amplify *P. omiscomaycus* DNA from filtered water samples. One liter water samples were collected from 17 locations in northeastern Kentucky, filtered, and DNA was extracted in a manner consistent with established methods. Additionally, each location was intensively sampled for *P. omiscomaycus* by seining. eDNA levels quantified using a primer/probe assay and real time PCR only partially correspond to field collection data, perhaps providing additional insight into *P. omiscomaycus* distribution. These data add to the body of knowledge concerning *P. omiscomaycus* distribution and provide a useful tool for detecting cryptic populations for this and other species.