

**Red Rock Stonefly**  
*Anacroneuria wipukupa*

**STATUS:** None. Positive 90-Day Finding published 12/16/09 (74 FR 66866).

**SPECIES DESCRIPTION:** *Anacroneuria wipukupa* is a member of the family Perlidae (Arthropoda; Insecta; Plecoptera). It is a medium-sized stonefly; with a length 12 to 15 mm. It belongs to a stonefly genus that is represented by 231 described and 19 undescribed species primarily from Mexico to South America. It is the only stonefly genus found in many tropical regions in Central America.

**HABITAT:** Most Perlidae live in shallow streams, rapids, or other comparable lotic situations. Firm substrates such as cobble, gravel, woody debris, and aquatic vegetation are essential. They generally occupy cold-water streams with high levels of dissolved oxygen and low levels of organic matter. However, tropical *Anacroneuria sp.* are found in streams with low levels of dissolved oxygen and higher levels of organic matter and sediment. It is possible that these tolerance thresholds have allowed *Anacroneuria sp.* to survive in tropical regions that do not support other stonefly genera.

**LIFE HISTORY:** There is no specific life-history information available for *Anacroneuria wipukupa*. Life-history and biology information from tropical species within this genus may or may not be applicable to *Anacroneuria wipukupa* given the differences in climate and habitats between central Arizona and the tropics. *Anacroneuria wipukupa* may or may not share the same adaptations that other *Anacroneuria sp.* possess that allow survival in non-typical Perlidae habitats in the tropics.

**RANGE:** The genus *Anacroneuria* was not confirmed to exist in the United States until *Anacroneuria wipukupa* was described in Arizona. Nymphs were first collected in Oak Creek at Page Springs, Yavapai County, in 1975 and 1977. The first adult *Anacroneuria wipukupa* was collected from Oak Creek at Red Rock Crossing and was considered endemic to Oak Creek. Believed to no longer occur at the type locality since 1988, the species was found again in Oak Creek in spring 2010. Additional specimens were also collected from Wet Beaver and Tonto creeks in 2010.

**REASON FOR DECLINE/ VULNERABILITY:** Threats and vulnerability may include water quality degradation and predation from fish and crayfish. A full analysis of threats is underway.

**LAND OWNERSHIP:** All lands encompassing the known range of the species are under the management authority of the Coconino and Tonto National Forests, State of Arizona, and private ownership along Oak Creek in Yavapai County, Arizona.

**NOTES:** *Anacroneuria wipukupa* currently receives no legal protection under the Endangered Species Act; however, we have initiated a 12-month status review of the species and anticipate publishing results in 2011.