ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Invertebrate Abstract **Element Code:** IIEPH15010
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Ameletus falsus*
COMMON NAME: False Ameletus Mayfly
SYNONYMS:
FAMILY: Ameletidae (previously placed in Siphlonuridae)

AUTHOR, PLACE OF PUBLICATION: McDunnough, 1938.

TYPE LOCALITY: Greer, Arizona.

TYPE SPECIMEN: J. and G. Sperry, 14 June, 1936, Canadian National Collection, Ottawa.

TAXONOMIC UNIQUENESS: There appear to be three species of *Ameletus* in the White Mountains area of Arizona; one is *A. falsus*, while the other two species are undescribed. "Current taxonomy precludes identification of *Ameletus* larvae to the species level" (Johnson 1992).

DESCRIPTION: For the genus *Ameletus*: The nymph has three heavily fringed tails. All three tails have a dark band about midway along their length. They have single, plate-like gills on abdominal segments 1-7. Each gill has a dark "stiffener" located near its dorsal edge. Pale abdominal segments exist on at least segments 1-2. The adults have two tails. The hind wings have a pointed projection near the base of its leading edge. The nymphs have chewing mouthparts. The antennae are short and difficult to see. For *Ameletus falsus*: the length of body and fore wing are 9.5 mm, and the hind wings are less than half as long as fore wings. There are two caudal filaments, the terminal one is shortened and lacking mouthparts.

AIDS TO IDENTIFICATION: This species is very similar to *A. aequivocus* but larger, and distinguished by dark ganglionic spots on the ventral surface of abdomen.

ILLUSTRATIONS: Color photos (University of Oregon web site: see citation)
Color photos (Brock, J. and S Prchal. 2001)
Color drawing of family (Voshell 2002)

TOTAL RANGE: New Mexico, and Apache County, Arizona.

RANGE WITHIN ARIZONA: Restricted to a few streams near Greer in the White Mountains of Arizona. According to the USGS they are found in Apache, Pima and Cochise counties.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Larval forms of *Ameletus* spp. inhabit swift flowing water for up to one year, usually among pebbles, near banks, among vegetation and debris, or often in rock pools on sides of boulders. Adults have mass emergence that occurs over a fairly predictable 1 to 2 week period, given normal weather conditions.

REPRODUCTION: Metamorphosis is incomplete, the life stages being egg, naiad, and adults. The naiads or young mayflies live in water. The adults are commonly found near streams, ponds and lakes and are attracted to light. The adults live but a few hours or days, but the naiads take from 1 to 3 years to develop.

Larvae generally have a mass emergence that lasts 4-15 days. They emerge into sub-adult forms and usually spend first night in vegetation before becoming full adult the following day. Adults mate and die that same day. Emergence times fairly species-specific with that of *A. falsus* being in mid-June based on holotype male.

FOOD HABITS: Larvae probably eat plant material and detritus though insects may be taken occasionally. Adults do not feed, as they have no mouthparts.

HABITAT: Larval forms inhabit swift flowing water for up to one year, usually among pebbles, near banks, among vegetation and debris, or often in rocky pools on sides of boulders. Restricted to high altitudes and cold, swiftly flowing water.

ELEVATION: For genus *Ameletus*: as high as 11,000 feet (3355 m).

PLANT COMMUNITY:

POPULATION TRENDS:

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[C2 USDI, FWS 1994]
[C2 USDI, FWS 1991]
[C2 USDI, FWS 1989]

STATE STATUS: None

OTHER STATUS: Sensitive (USDA, FS Region 3 1999)
[Sensitive USDA, FS Region 3 1988]

MANAGEMENT FACTORS: "Threats are primarily restricted to the aquatic areas inhabited by larval forms as this is the predominant and most long-lived life stage for members of the genus. Aquatic habitats occupied by *A. falsus* are subject to several threats

including logging, grazing, trout stocking, and pollution resulting from the large influx of summer visitors to the area. Larval forms of *A. falsus* are also adversely affected by large inputs of pine needles due to the needles lowering the pH of the stream." (Johnson 1992)

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Collections of larva should be made so that they can be identified as to species. "This is especially important as larval forms are collected more frequently than adults" (Johnson 1992). In addition, "searches for adult *A. falsus* should be conducted during mid-June, at the same time larvae need to be collected from nearby streams in order to associate the two life forms" (Johnson 1992).

LAND MANAGEMENT/OWNERSHIP: BIA - White Mountain Apache Reservation; USFS - Apache-Sitgreaves National Forest.

SOURCES OF FURTHER INFORMATION

REFERENCES:

BISON-M, Biota Information System of New Mexico. 2002. (http://nmnhp.unm.edu).

Brock, J. and S Prchal. 2001. Sensitive Insect Species of the Coronado National Forest. A Training Project by Sonoran Arthropod Studies Institute.

Caucc, A. and Nastasi. 1986. Hatches II: A complete guide to fishing the hatches of North American trout streams. Winchester Press.

Johnson, R. 1992. Unpublished status report for the US Fish and Wildlife Service.

Kondratieff, B.C. (coordinator). 2000. Mayflies of the United States. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.gov/resource/distr/lepid/mfly/mflyusa.htm.

NatureServe Explorer: An online encyclopedia of life [web application]. 2002. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: http://www.natureserve.org/explorer. (Accessed: June 12, 2003).

Voshell, J. R. 2002. A Guide to Common Freshwater Invertebrates of North America. The McDonald & Woodward Publishing Company, Blacksburg Virginia. Pp:274.

University of Oregon. http://zebu.uoregon.edu/~dmason/Mckenzie/bugs/ameletus.html.

USDA, Forest Service Region 3. 1988. Regional Forester's Sensitive Species List.

USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.

USDI, Fish and Wildlife Service. 1989. Endangered and Threatened Wildlife and Plants; Animal Notice of Review. Federal Register 54(4):566.

USDI, Fish and Wildlife Service. 1991. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule. Federal Register 56(225):58823.

USDI, Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule. Federal Register 59(219):59010.

USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species. Federal Register 61(40):7596-7613.

USGS. Available: http://www.npwrc.usgs.gov/resource/distr/insects/mfly/az/13.htm.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

Robert Johnson - Biologist under contract to USDI, Fish and Wildlife Service
Steve Prchal - Sonoran Arthropod Studies Institute, Tucson, AZ.
Boris C. Kondratieff, Jamestown, ND.

ADDITIONAL INFORMATION:

Revised: 1993-06-17 (DBI)
1995-06-19 (DBI)
1997-03-02 (SMS)
2003-06-20 (AMS)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 20XX **(= year of last revision as indicated at end of abstract)**. X...X **(= taxon of animal or plant)**. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.