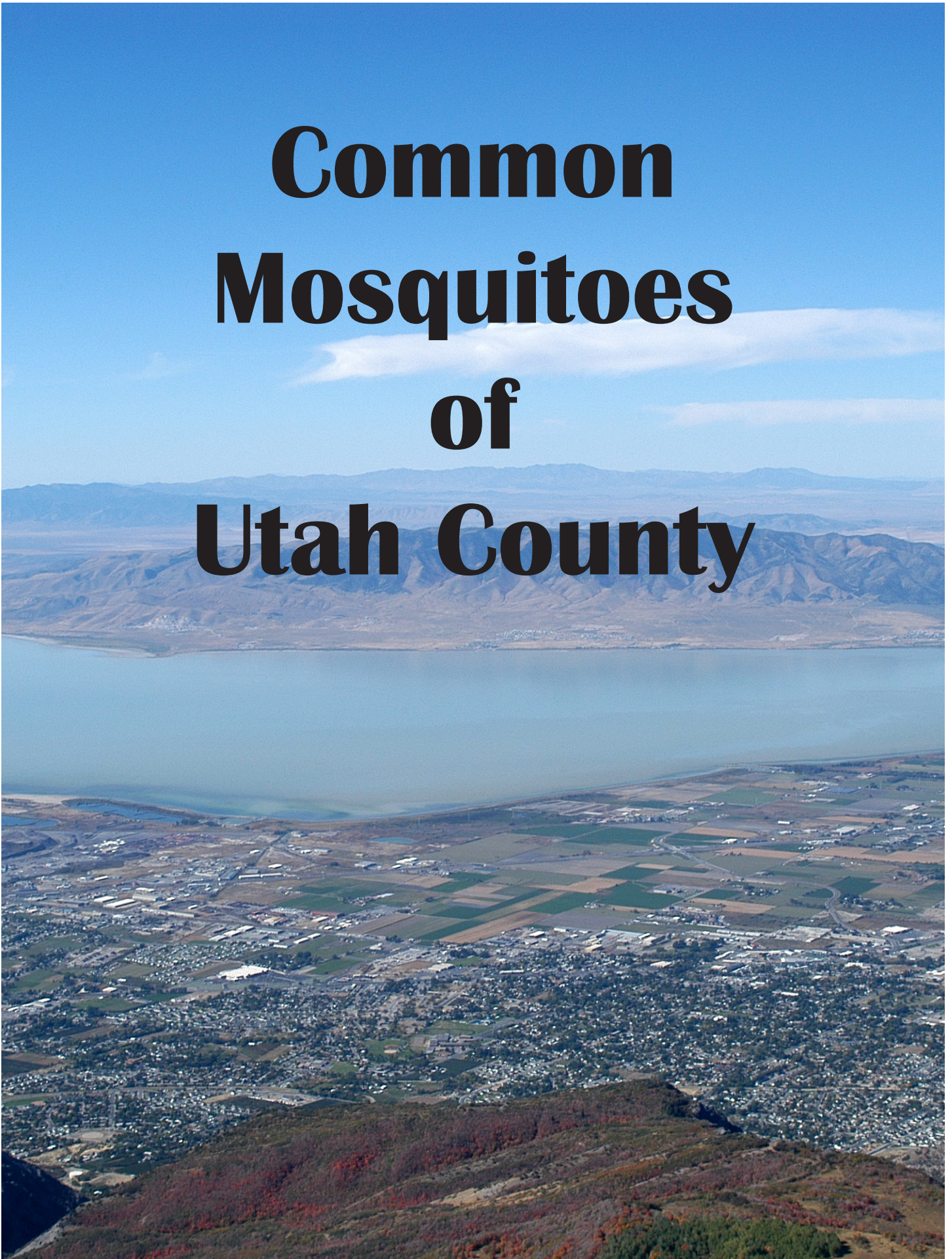


Common Mosquitoes of Utah County



Mosquito Species in Utah County

An. freeborni

Larva habitat:

Larvae of this species mostly live in pools fed by spring water or in algal growths near the edge of streams. Anopheles larvae are adapted to a variety of aquatic habitats but occur predominantly in ground waters. The larvae generally rest with the end of the abdomen against objects and are therefore found in greatest numbers in areas with emergent vegetation at the margins of the habitats.

Adult distinguishing characteristics:

Female adults have two long palps nearly as long as the biting proboscis which is an important distinguishing feature.

The wings have 4 dark spots of scales if they are not too worn.

Disease Vector:

Historically, this species has been an important vector of malaria in the west, including Utah. This species is the principal malaria vector in the arid and semiarid western U.S.

Distribution:

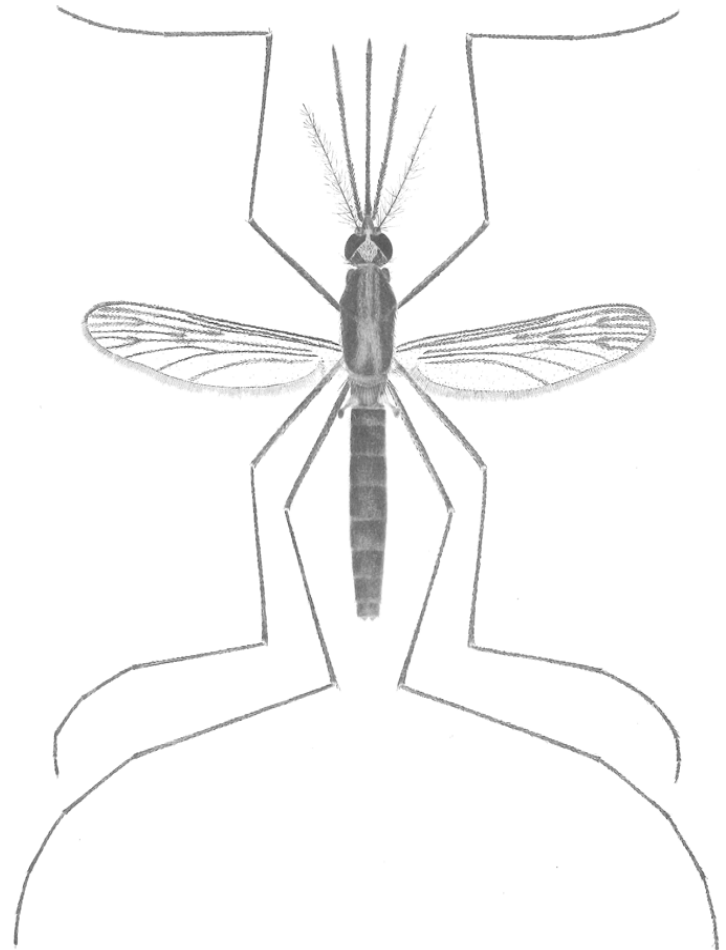
Is found in western Canada and in the United States.

Feeding Preferences:

Most prefers to feed on humans are active at dusk and into the evening. Some active at dawn also. The adults of most Anopheles are active at night or during twilight periods and rest in cool, damp places during the day.

Frequency of occurrence in Utah County:

We trap it commonly, has increased in frequency in our traps over the past several years. (Utah County)



Mosquito Species in Utah County

Ae. vexans

Larva habitat:

Larvae are found in a wide variety of temporary pools and wetlands. This is the classic “floodwater” mosquito species. By floodwater, it means that they lay their eggs individually on moist soil above the waterline at a wide variety of aquatic habitats, including temporary pools such as detention ponds or irrigated fields, but also permanent water bodies where the water level fluctuates. They especially prefer to lay eggs where there is a lot of leaf and twig cover, helping to keep the soil moist. After a short period of drying, the eggs must subsequently be flooded with water to hatch. During periods of drought, eggs can remain dormant but viable for many years, waiting for the water to rise.

Females lay 100– 180 eggs scattered in moist places left by receding or overflow pools. Egg hatch is regulated by air temperature and humidity, water temperature, water oxygen content and depth of the eggs in the soil or litter.

Adult distinguishing characteristics:

Against a background of black scales, this mosquito has narrow white bands on the base of each leg segment, and the base of most abdominal segments is adorned with white-scaled bands, indented in the middle so that they look like the letter “B” when viewed sideways.

Adults mate within two days after emergence and may disperse up to 10 miles in search of nectar or a blood meal. Females are vicious day and night biters, taking blood from large mammals including humans. Birds are occasionally attacked as well.



Mosquito Species in Utah County

Disease Vector:

Several arboviruses have been isolated from *Ae. vexans* in nature, including WEE and EEE. In California, this mosquito is not considered to be a vector of human disease but may play a lesser role in the transmission of dog heartworm.

Distribution:

They have been collected on every continent except Antarctica and South America. In most of North America this is the dominant mosquito species,

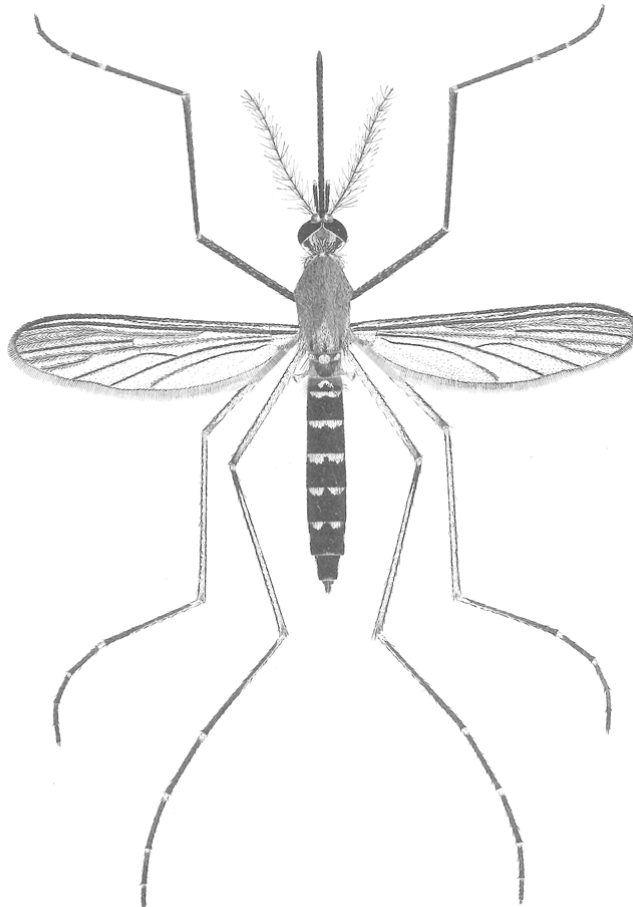
Feeding Preferences:

They are opportunistic feeders, taking blood meals from a variety of animals as available, but apparently preferring larger mammals, including cattle, horses, deer, and humans when present.

Frequency of occurrence in Utah County:

Very common summer mosquito. This pest of humans and other mammals can have several generations each season, so the population may increase during after significant rain events, this mosquito can be quite numerous and is considered a major pest of man (Mass. Mosquito Website)

This is a multi-brooded, dark colored species, commonly occurring in areas of excess irrigation, persist from April-Oct. This species comprised 50% of our trapped mosquitoes in 2003-04, the past two years it has been under 2%



Mosquito Species in Utah County

Oc. dorsalis

Larva habitat:

Ochlerotatus dorsalis overwinters in the egg stage and the eggs hatch after flooding during the first warm weather in the spring. Ochlerotatus dorsalis larvae occur in a variety of habitats including both brackish and freshwater. They are common along the margins of the Great Salt Lake in Utah. Ochlerotatus dorsalis can be found in a variety of freshwater habitats including marshes, temporary pools formed by precipitation, natural springs and irrigation water. The larvae Oc. dorsalis have been found in association with numerous other mosquito species. In Utah, the species has been found breeding with 18 other species of mosquitoes including Ochlerotatus vexans, Culex tarsalis and Culiseta inornata. In New York, under saline conditions, the larvae have been found with Ochlerotatus sollicitans.



Adult distinguishing characteristics:

This is a multi-brooded, light colored species, prefers alkaline waters with salt grass, adults fly from March to October and is an aggressive biter.

Disease Vector:

Have been found to carry WNV, SLE and WEE but not a major vector mosquito.

Distribution:

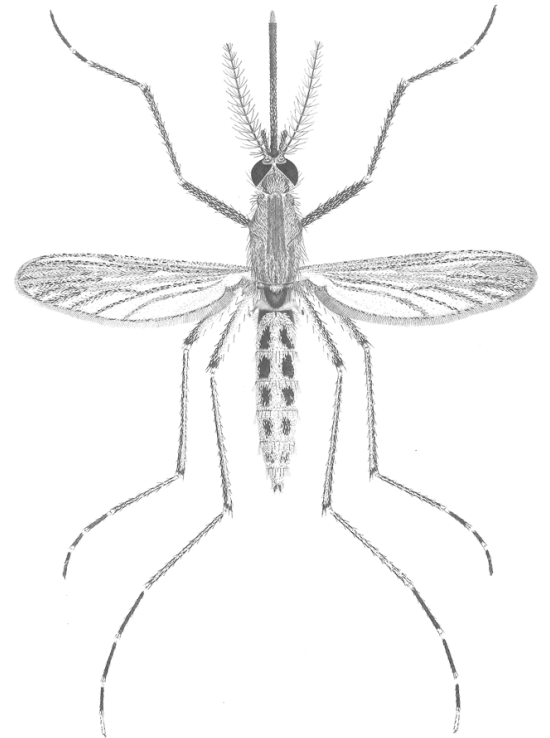
Has distribution that extends over the greater portion of North American northern Europe and into Asia. In the United States, the mosquito reaches greatest abundance from the plains states to the Pacific coast. In the east, it has been reported in lesser numbers across the Great Lakes states to the east coast states of Massachusetts, Connecticut and New Jersey.

Feeding Preferences:

The will feed on a variety of host and are very opportunistic in the feeding preference. They are one of the few mosquitoes in Utah County that can be active in the early morning hours.

Frequency of occurrence in Utah County:

Oc. dorsalis is well known for its capacity to migrate long distances. The adults are strong fliers and have been traced for 22 miles in Utah and more than 30 miles in California. As a result, the mosquito has been recognized as a chance migrant in some areas of its range.



Mosquito Species in Utah County

Oc. increpitus

Larva habitat:

Develops in trapped waters created by fluctuations of Utah Lake. Also found in borrow pits along highway and places where snow melt or spring run off has collected. These are found in early spring disappearing as the days become hotter.

Adult distinguishing characteristics:

Adults have broad distinct white bands on legs and even white bands on a pointed abdomen.

Disease Vector:

None.

Distribution:

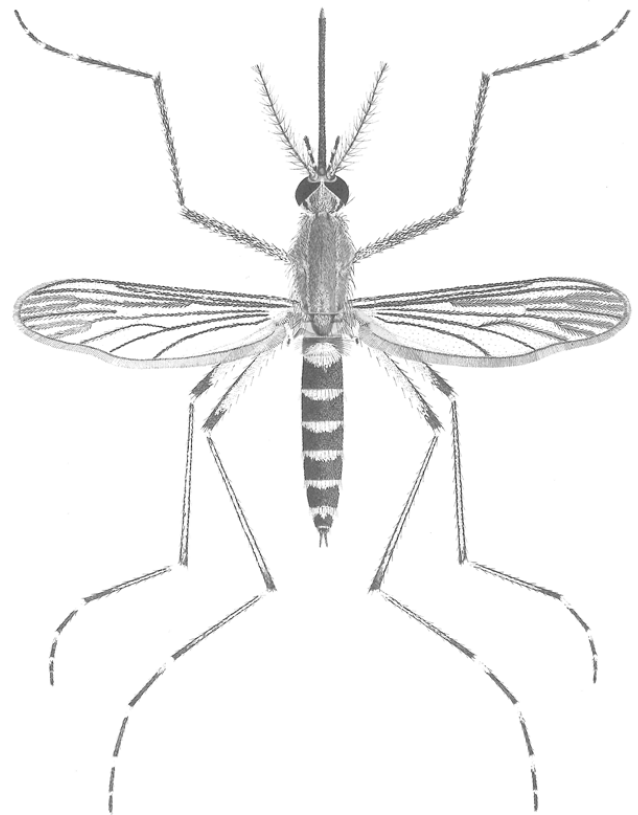
This species extends from the Montana/Wyoming prairies to the eastern plains of Washington and Oregon, south to Arizona.

Feeding Preferences:

This is a single brooded, dark colored, late spring species, can be noxious pests of golf courses and nearby inhabitants, disappears by early July. Aggressive biters of livestock, wildlife and humans.

Frequency of occurrence in Utah County:

This species has increased to over 5% last year from less than 1%. The heavily vegetated stagnant water near



Mosquito Species in Utah County

Oc. (*Aedes*) *nigromaculis*

Larva habitat:

It prefers low areas that accumulate rain/irrigation water, may complete life cycle in 5 days during summer. *Oc. nigromaculis* larvae are associated with irrigated pastures and alfalfa fields. A brood is usually produced with each irrigation at intervals ranging from 10–16 days. *Aedes nigromaculis* larvae are found most frequently in fields with lower alkalinity and salinity than one would typically associate with *Ae. dorsalis*. It occasionally occurs in waters producing *Culex tarsalis*. During midsummer, larvae may grow rapidly and pupate in three days. The pupal stage lasts 1–2 days. Since the pupae can survive on damp, shaded substrates three days of standing water is sufficient to support adult emergence. The eggs are laid in damp areas subject to later inundation. Each *Ae. nigromaculis* female lays 100–150 eggs per batch with the first batch deposited 4–5 days after the female emerges. Due to the female's short life span (average 10–14 days and maximum 20 days), only 1–2 batches of eggs are deposited by each female before she dies. A majority, but not all of the eggs hatch with each irrigation. As temperatures drop in the fall, the eggs become dormant for the winter. In this state of dormancy (diapause) the eggs will not hatch until soil and water temperatures reach 64–70°F (18–21°C) in the spring.



Adult distinguishing characteristics:

Small dark, species, has broad banded legs and proboscis.

Disease Vector:

Considered a potential threat for arbovirus transmission. Lab tests show this species can vector WEE, and SLE.

Distribution:

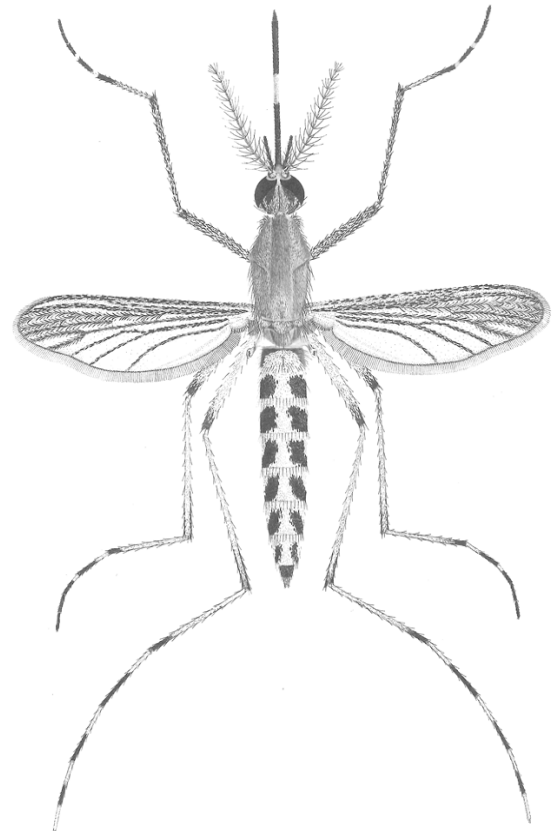
48 state in the United States.

Feeding Preferences:

Strong fliers and aggressive biters, attracted to legs when walking through low vegetation. *Aedes nigromaculis* blood feed predominately on cattle and readily attack humans. Females are most active at dusk, but also will attack during the day. Normally, the adults remain near the larval site, but under favorable conditions, females are capable of dispersing over 20 miles to obtain a blood meal.

Frequency of occurrence in Utah County:

This species is well known to mosquito personnel by occasional late summer attacks in communities.



Mosquito Species in Utah County

Cx. erythrorothorax

Larva habitat:

This species develops in shallow to deep water with heavy vegetation around Utah Lake.

Adult distinguishing characteristics:

Culex erythrorothorax adults are medium-sized mosquitoes with a dark-scaled proboscis and palpi. The back and sides of the thorax are reddish-orange, wing scales are dark brown and legs are medium brown, giving it a bronze-like appearance. This mosquito may be confused with *Culex pipiens* and *Culex quinquefasciatus* but differs by the reddish thorax and yellowish abdominal bands (white bands in *Cx. pipiens* and *Cx. quinquefasciatus*).

Disease Vector:

They can be vectors for West Nile Virus and Saint Lewis Encephalitis.

Distribution:

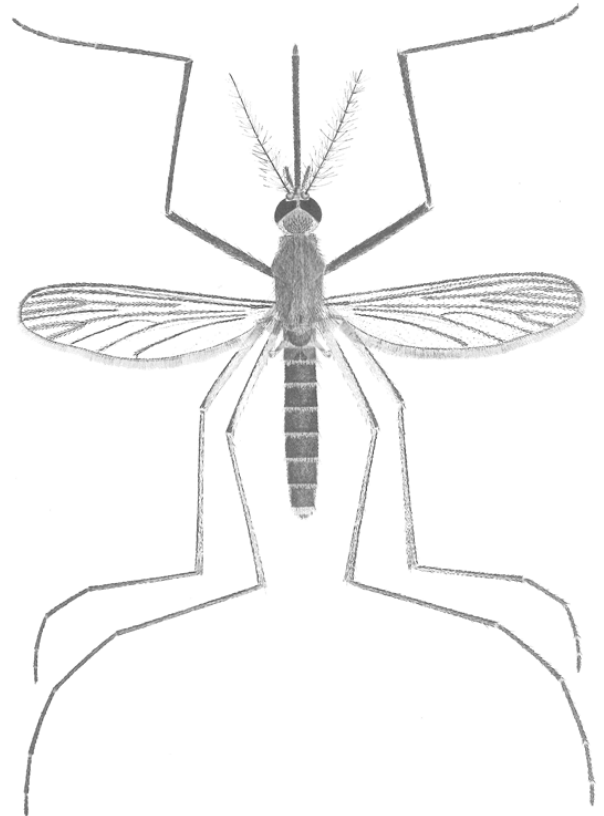
Females usually remain close to the wetland habitat around Utah Lake.

Feeding Preferences:

They utilize a broad range of blood sources, including birds and humans. Peak landing and biting activity occur one to two hours after sunset. However, this species will readily attack and feed during daylight hours in shaded, wind-protected areas. They can be aggressive biters in late afternoon to early evening particularly when disturbing vegetation in this habitat.

Frequency of occurrence in Utah County:

They are found in most of Utah county but concentrated around the marshy wetland around Utah Lake. They make up about 6% of the mosquito population in Utah County.



Mosquito Species in Utah County

Cx. pipiens

Larva habitat:

These are generally in permanent or semi-permanent, foul or polluted waters. Typical sources include artificial containers, fishponds, cesspools, septic tanks, catch basins, waste treatment ponds, dairy drains, and improperly maintained swimming pools. Larvae live in very organic polluted waters that might contain dead leaves and grass clippings as neglected ornamental pools, catch basins, trapped water in buckets, planters, old tires, etc. Many of these habitats can be eliminated by a quick survey of one's yard.

Adult distinguishing characteristics:

They are medium-sized brown mosquitoes with dark-scaled unbanded legs and an unbanded proboscis. Very plain with no real notable characteristics.

Disease Vector:

They are vectors for West Nile Virus, Saint Louis Encephalitis and Western Equine Encephalitis.

Distribution:

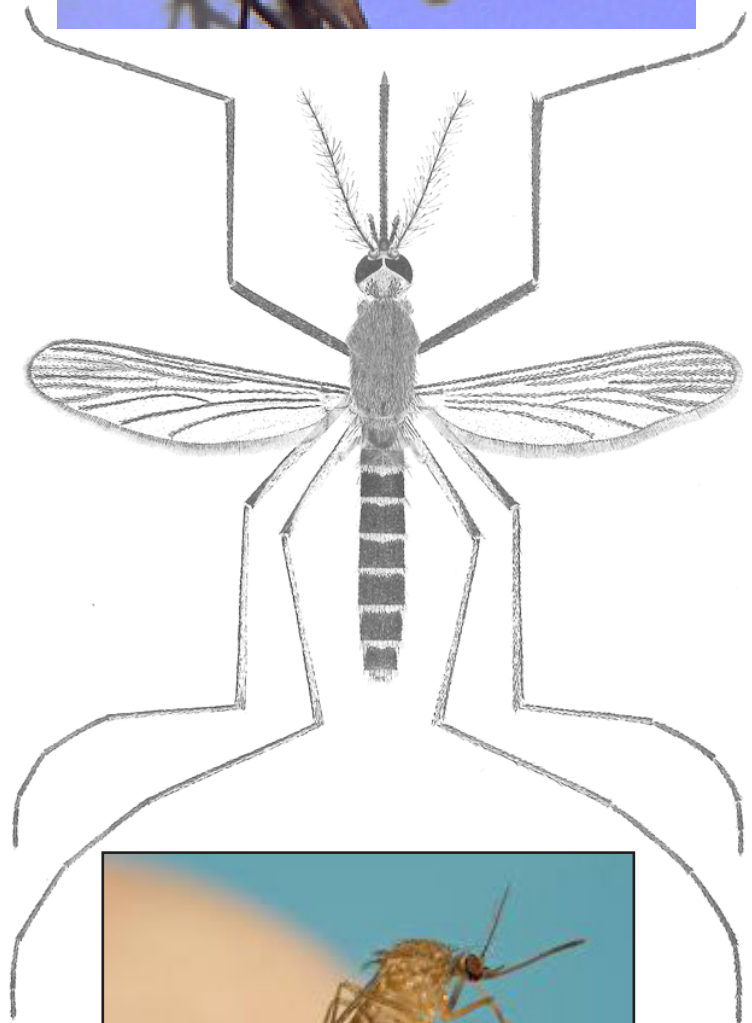
Found in all parts of the United States. Prevalent in Utah County in all areas of the county. Very common year-round mosquito which primarily feeds on birds. It will readily enter a house but is considered shy. It will typically only bite people when they are motionless, usually while they are sleeping.

Feeding Preferences:

Largely a bird feeder but will feed on humans and other animals also.

Frequency of occurrence in Utah County:

They are found in every part of the county totaling 30% of the mosquito population.



Mosquito Species in Utah County

Cx. tarsalis

Larva habitat:

This mosquito colonizes a wide variety of aquatic sources ranging from clean to highly polluted waters and is also able to tolerate high salinity levels. It is associated with flood-water, rain pools, irrigation waters, ornamental ponds and dairy drains.

Adult distinguishing characteristics:

This dark species has broad white banded legs and a banded proboscis. Females overwinter and begin to be active in the spring feeding mostly on birds. Adults are medium sized, brownish mosquitoes with a median white band on the proboscis, white bands overlapping the tarsal joints and narrow lines or dotted rows of white scales on the outer surface of the hind femur and tibia

Disease Vector:

They are vectors for West Nile Virus, Saint Lewis Encephalitis and Western Equine Encephalitis.

Distribution:

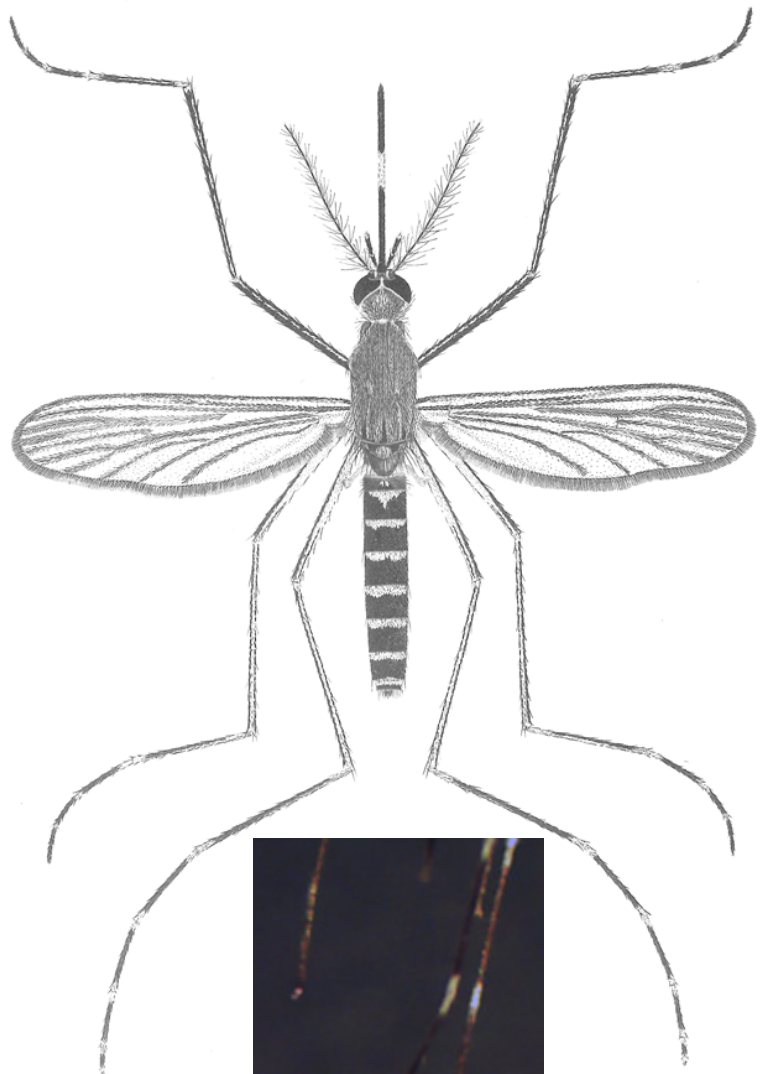
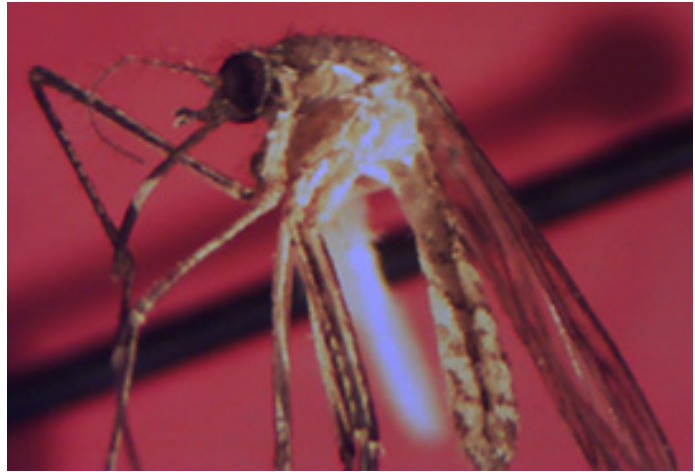
This mosquito is found in all areas of the county. They lay their eggs in permanent water, so they are more abundant near water sources. They are strong flyer's traveling up to 25 miles assisted by wind to find a preferred blood meal.

Feeding Preferences:

Will feed on birds, human and horses. Host preference changes as summer progresses and females feed heavily on mammals. It is an aggressive biter from dusk to dawn.

Frequency of occurrence in Utah County:

This mosquito is found in all areas of Utah County. 34% of the mosquito trap in Utah county are Culex tarsalis.



Mosquito Species in Utah County

Cs. inornata

Larva habitat:

Larvae found in a wide range of habitats including marshes, seepages, ditches, canals ponds, etc. Larvae can tolerate water with a salinity up to 26 parts per trillion.

Adult distinguishing characteristics:

This is a large, widespread, brown species with unbanded legs, and a long, decurved proboscis. Under a microscope the scales on legs appear speckled like salt and pepper.

Disease Vector:

Considered a vector of Western equine encephalitis (WEE) and West Nile Virus (WNV)

Distribution:

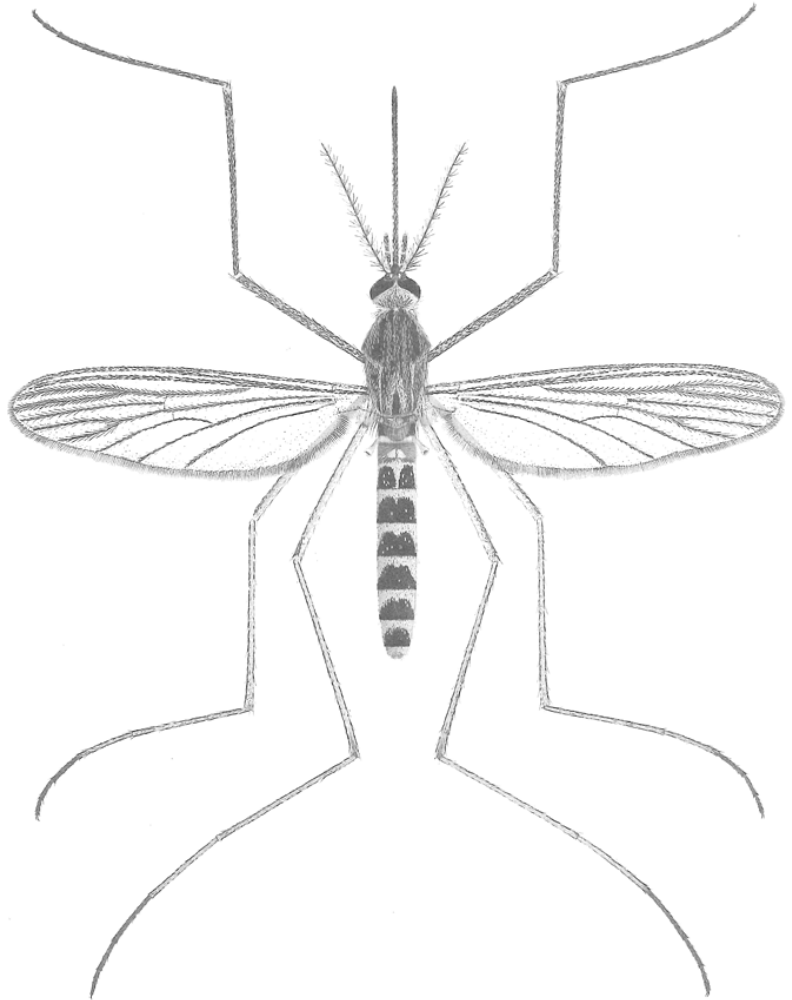
All 48 states

Feeding Preferences:

Females prefer large mammals as horses and cows but will occasionally land on humans.

Frequency of occurrence in Utah County:

Biting activity on overcast days, dusk and at night. Flight range is less than five miles.



Mosquito Species in Utah County

Cs. incidens

Larva habitat:

Larvae are found in a wide variety of standing water sources including creeks, fish ponds, abandoned swimming pools, stagnant and polluted waters, log ponds, reservoirs, snow pools, brackish water, horse troughs, artificial containers, and even discarded automobile tires. Under optimum conditions development from egg to adult takes about two to three weeks. However, all mosquito developmental times are dependent on the temperature and food values of the water in which they develop.

Adult distinguishing characteristics:

Large mosquito, proboscis usually with slight downward curve, proboscis and palps mostly dark-scaled.

Disease Vector:

None

Distribution:

They range from Alaska to the Southern California border, primarily west of the Rocky Mountains. In Utah seen in the spring only.

Feeding Preferences:

Females feed primarily on birds and domestic animals but are troublesome pests in areas where they feed on humans. Bites are experienced mostly in shady areas during the twilight hours, when the mosquito is most active.

Frequency of occurrence in Utah County:

This species is not seen often and only in the spring of the year.

