

ADDITIONAL RECORDS AND OBSERVATIONS ON NEVADA MOSQUITOES

H. C. CHAPMAN

Entomology Research Division, Agric. Res. Serv., U.S.D.A.¹

The mosquito fauna of Nevada was recently reported to contain 29 species, including five new State records (Chapman 1959). In this report, the writer stated that Dyar's (1922) record from Steamboat Springs of *Anopheles maculipennis* Meigen with brassy wingtips as *A. earlei* Vargas, which was in error since the specimens were undoubtedly *A. freeborni* Aitken. *A. earlei* has not as yet been collected in Nevada.

Recent larval collections of *Culex apicalis* Adams and *Psorophora confinnis* (Lynch-Arribalzaga) bring the number of species known from the State to 30. Localities, dates, and ecological notes are herein included for these species as well as for *Aedes sierrensis* (Ludlow) and *Uranotaenia anhydor* Dyar, which were collected as larvae for the first time in the State.

Culex apicalis ADAMS

This species was listed by Carpenter and LaCasse (1955) from Arizona, California, and Mexico, by Nielsen and Rees (1959) from Utah, and from Texas by Breland (1956). It is commonly found in California in woodland pools and never occurs at elevations above 5,000 feet, according to Freeborn and Bohart (1951).

Larvae were collected in Nevada in many areas at elevations ranging from 4,700 to 6,400 feet. Larval habitats were open and shaded pools, streams, and a roadside ditch, all of which contained water emanating from fresh-water springs. Companion species at higher elevations were *Culiseta incidens* (Thomson) and *Eucorethra underwoodi* Underwood. *Culiseta incidens*, *C. inornata* (Williston), *Culex peus* Speiser, and *C. boharti* Brookman and Reeves were noted with *C. apicalis* at lower elevations.

¹ In cooperation with the Nevada Agricultural Experiment Station, Reno, Nevada.

Another species of the subgenus *Neoculex*, *C. territans* Walker, was common in open permanent ponds in the vicinity of Lake Tahoe in several counties but was never noted breeding with *C. apicalis*.

Collection Data:

DOUGLAS COUNTY: Glenbrook, VIII-6-59, 6,400 feet; Stateline, VIII-6-59, 6,300 feet.

LYON COUNTY: Silver City, VIII-26-59, 5,000 feet; X-13-59; IX-12-59, 4,700 feet; Dayton, larvae, XI-17-60, 4,500 feet.

WASHOE COUNTY: Mt. Rose, IX-10-59, 5,500 to 6,000 feet.

Psorophora confinnis

LYNCH ARRIBALZAGA

This species is known from 33 States (Carpenter and LaCasse, 1955) and is found in the East, South, Midwest, and in the West. Richards *et al.* (1956) reported it from many counties in adjacent Arizona, and Bohart and Freeborn (1951) noted it from two counties in the southeastern corner of California. It is a notorious biting pest in many irrigated areas throughout the country.

Many third- and fourth-instar larvae were collected in several drain ditches adjacent to an alfalfa field just north of Moapa in Clark County. Associated species were *Aedes dorsalis* (Meigen) and *A. vexans* (Meigen). No adults of *P. confinnis* were observed. Male and female *P. confinnis* adults were reared from these larvae as an identification check. This is the first record of the occurrence of this genus in Nevada.

Collection Data:

CLARK COUNTY: Moapa, larvae, VII-21-60.

Aedes sierrensis (LUDLOW)

The only records of this species in the State were adult collections by Dyar (1922) and Richards *et al.* (1956). Both

of these adult collections were made in or adjacent to the Sierra Nevada Mountains where its presence is probably restricted owing to climatological and ecological factors.

The writer first noted second-instar larvae of *A. sierrensis* in a treehole in quaking aspen (*Populus tremuloides* (Michx.) in the Sierra Nevada Mountains in April at 7,500 feet. Both this treehole and one in black cottonwood (*Populus trichocarpa* T. and G.) in the Sierras at 6,500 feet yielded many first-instar larvae within 15 minutes after the holes were flooded by the writer with water from an adjacent stream. According to Peyton (1956), *A. sierrensis* larvae have never been recorded breeding in quaking aspen or above 7,200 feet. Biting adults were observed in a shaded forest in July and September in the Lake Tahoe area.

Although this species is multivoltine in most States, it apparently is both rare and usually univoltine in Nevada because of the paucity of precipitation (except snow) and hardwood host trees with suitable treeholes. The second larval brood observed in September resulted when an unusual storm deposited 0.91 inch of rain in the general area in late July.

The fourth hind-tarsal segment of adult females reared from these larvae is white ringed at the base. The larvae possess hair 11 of the first abdominal segment and, therefore, according to Belkin and McDonald (1957), are *A. sierrensis* (Ludlow) and not *A. varipalpus* (Coq.).

Collection Data:

DOUGLAS COUNTY: Glenbrook, adult, VIII-25-15 (Dyar, 1922).

ORMSBY COUNTY: Carson City, adult, VII-2-53 (Richards *et al.*, 1956).

WASHOE COUNTY: Mt. Rose (Thomas Creek), IV-19-60, 6,500 and 7,500 feet; larvae, IX-13-60, 6,500 feet; Lake Tahoe, females, VII-12-60, females, IX-13-60, 6,700 feet.

Uranotaenia anhydor DYAR

This species was previously known from Nevada only by six females col-

lected at lights by C. B. and R. N. Philip at Fairbanks Springs in Ash Meadows, Nye County (Freeborn and Bohart, 1951). In addition *U. anhydor* is known from Arizona and California. Belkin and McDonald (1956) presented an excellent taxonomic and ecological discussion of the *U. anhydor* complex.

The writer surveyed a small portion of Ash Meadows in the Amargosa Desert in July and collected several dozen larvae in the fourth-instar stage only from one small, partially shaded depression adjacent to a fresh-water spring. The dominant vegetation was common three-square (*Scirpus olneyi* Gray). No adults of this species were observed. Larvae of *Culex tarsalis* Coq., *C. erythrothorax* Dyar, and *Anopheles freeborni* Aitken were found in adjacent pools. The water level of the various springs was apparently much lower than usual, which might have contributed to the scarcity of *U. anhydor* larvae.

The chaetotaxy of these larvae appears to be very similar to the Saratoga Springs population of *U. anhydor* depicted by Belkin and McDonald (1956).

Collection Data:

NYE COUNTY: Ash Meadows (Amargosa Desert), larvae, VII-19-60; Ash Meadows (Fairbanks Springs), females, VIII-21-49 (C. B. and R. N. Philip).

SUMMARY. *Culex apicalis* and *Psorophora confinnis* are added to the mosquito fauna of Nevada. Larvae of *Aedes sierrensis* and *Uranotaenia anhydor* were collected for the first time in the State. Ecological information, associated species, and localities are given for these four species.

References Cited

BELKIN, J. N., and McDONALD, W. A. 1956. A population of *Uranotaenia anhydor* from Death Valley, with descriptions of all stages and discussion of the complex (Diptera, Culicidae). *Ann., Ent. Soc. America* 49(2):105-32.

———. 1957. A new species of *Aedes* (*Ochlerotatus*) from tree holes in southern Arizona and a discussion of the *varipalpus* complex (Diptera: Culicidae). *Ann., Ent. Soc. America* 50:179-91.

BRELAND, O. P. 1956. Some remarks on Texas mosquitoes. *Mosquito News* 16(2):94-7.

CARPENTER, S. J., and LACASSE, W. J. 1955. Mosquitoes of North America. Univ. of California Press. 360 pp.

CHAPMAN, H. C. 1959. A list of Nevada mosquitoes, with five new records. Mosquito News 19(3):155-6.

DYAR, H. G. 1922. The mosquitoes of the United States. Proc. U. S. Natl. Mus. 62:1-119.

FREEBORN, S. G., and BOHART, R. M. 1951. The mosquitoes of California. Bull. California Insect Survey 1(2):25-78.

NIELSEN, L. T., and REES, D. M. 1959. The mosquitoes of Utah—A revised list. Mosquito News 19(2):45-7.

PEYTON, E. L. 1956. Biology of the Pacific Coast tree hole mosquito *Aedes varipalpus* (Coq.) Mosquito News 16(3):220-4.

RICHARDS, C. S., NIELSEN, L. T., and REES, D. M. 1956. Mosquito records from the great basin and the drainage of the lower Colorado River. Mosquito News 16(1):10-17.

UTAH MOSQUITO ABATEMENT ASSOCIATION

Sixty per cent of the people in the state of Utah are now living within the boundaries of organized mosquito abatement districts.

President

GLEN C. COLLETT
Salt Lake City M.A.D.
401 City & Co. Bldg.
Salt Lake City, Utah

Vice-President

DR. GEORGE F. KNOWLTON
Utah State University
Logan, Utah

Sec.-Treas.

JAY E. GRAHAM
So. Salt Lake Co. M.A.D.
Midvale, Utah

Proceedings of Annual Meetings for Sale.