

local military establishments and the specimens were forwarded to the Fifth Service Command Medical Laboratory where determinations were made.

The records presented in the following paragraphs include, for each species taken, the months of occurrence, the number of specimens identified, and the localities in which the collections were made, in the order named. The locality name is either the name of the military establishment or the name of the town or city in which the military installation was located. These names are abbreviated as follows: Austin: A; Camp Atterbury: CA; Fort Wayne: FW; Indianapolis: I; Madison: M.

#### COLLECTION RECORDS

*Anopheles barberi*, July-Sept., (5), CA, I; *An. punctipennis*, Apr.-Oct., (2167), CA, FW, I, M; *An. quadrimaculatus*, June-Oct., (256), A, CA, FW, I.

*Uranotaenia sapphirina*, Sept., (24), CA, FW.

*Culiseta inornata*, Apr.-June, (56), CA, FW, I.

*Psorophora ciliata*, June 21, 1945, (1), CA; *P. cyaneescens*, July 3, 1945, (1), CA; *P. ferox*, June 27, 1945, (3), I; *P. horrida*, July 3, 1945, (3), CA; *P. confinnis*, May 24, 1945, (3), I.

*Aedes canadensis*, March-May, (992), CA, FW, M; *A. sticticus*, July 3, 16, 1945, (2), CA; *A. trivittatus*, Sept. 20, 1945, (4), CA; *A. triseriatus*, May-July, Sept., (121), CA, FW, I; *A. vexans*, March-Oct., (466), CA, FW, I, M; *A. cinereus*, Apr., June, (30), FW, I.

*Culex pipiens*, Jan., March-Oct., (1664), A, CA, FW, I; *C. restuans*, Apr.-Oct., (2221), CA, FW, I; *C. salinarius*, May-Oct., (180), CA, FW, I; *C. erraticus*, Aug., Sept., (44), A, CA, I; *C. territans*, Apr.-Oct., (145), CA, FW, I.

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## NOTES ON MOSQUITOES IN NORTH AMERICA: III

### COLLECTIONS AT MILITARY INSTALLATIONS IN KENTUCKY DURING 1944 AND 1945

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Dyar (1922) gave locality records for eight species of mosquitoes in Kentucky. Other workers, particularly Quinby (1936, 1937 and 1941) and Quinby *et al.* (1944), contributed much additional information on the mosquito fauna of the State. Quinby *et al.* (1944), cited the earliest known record for each of the forty-two species known to occur in the State and gave their distribution by counties and prevalence. Kitzmiller (1945) reported the occurrence of an additional species,

*Orthopodomyia alba* Baker, at Fort Knox, Kentucky.

This paper includes collection records of twenty-four species of mosquitoes taken during 1944 and 1945 at six military installations located in Kentucky. The species taken, dates of collection or months of occurrence, number for each species identified and localities in which the collections were made are given in the following paragraphs in the order stated. Either the name of the military establishment or the name of the town or city in which the military establishment was located is given to indicate the locality.

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These names are abbreviated as follows: Camp Breckenridge: CB; Camp Campbell: CC; Danville: D; Fort Knox: FK; Lexington: L; Fort Thomas: FT.

*Culex pipiens* Linnaeus and *C. quinquefasciatus* Say are not included since it is not known whether identifications were based on examinations of male genitalia. However, the two species are known to comprise a major portion of the mosquito problem during the summer and early fall months.

#### COLLECTION RECORDS

*Anopheles barberi*, June, July, Aug., (6), CC; *An. crucians*, May, (2), CC; *An. punctipennis*, May-Sept., (574), CB, CC, D, FK; *An. quadrimaculatus*, May-Oct., (297), CB, CC, D, FK.

*Toxorhynchites r. septentrionalis*, Oct. 2, 1944, (3), CC.

*Uranotaenia sapphirina*, July, Sept., (2), CC, FK.

*Culiseta inornata*, May, (2), FK.

*Orthopodomyia signifera*, June, Aug., Oct., (38), CC, FK.

*Mansonia perturbans*, July 25, 1945, (1), CC.

*Psorophora ciliata*, July, Sept., Oct., (8), CC, FK; *P. cyanescens*, June-Oct., (208),

CC; *P. ferox*, June, July, (7), CC; *P. horrida*, June 5, 1945, (1), CC; *P. confinnis*, July, Sept., Oct., (25), CB, CC, FK; *P. discolor*, May, July-Oct., (52), CC, FK.

*Aedes canadensis*, May, June, (26), CC, FK; *A. sticticus*, May, June, (12), CC; *A. triseriatus*, May-Oct., (121), CC, FK; *A. vexans*, Apr.-Oct., (163), CB, CC, FK, FT.

*Culex restuans*, Apr.-Oct., (535), CB, CC, D, FK, L; *C. salinarius*, Jan., May-Oct., (198), CC, D, FK; *C. tarsalis*, Sept., Oct., (4), CC, FK; *C. erraticus*, June-Oct., (72), CC, FK; *C. territans*, May-July, Sept., Oct., (62), CB, CC, FK.

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## THE STIRRUP-SHAPED PIECE AS AN AID IN THE TAXONOMIC STUDY OF MOSQUITO LARVAE \*

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The presence of a sclerotised structure, called the stirrup-shaped piece, in the siphon or air tube of mosquito larvae has been known for a long time (Howard, Dyar and Knab, 1912). Marshall (1938) states that the stirrup-shaped piece articu-

lates with the inner flaps of the five valves at the distal end of the siphon. This structure is reported to be movable, and the direction of movement is supposed to determine the positions assumed by the valves. Distal movements of the stirrup-shaped piece causes the valves to diverge from each other, and to form a star-shaped figure. These valves, by adhering to the

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