

An interesting feature of the meeting was the Question Box and Panel Discussion held on Monday evening. The panel which answered questions consisted of Prof. W. B. Herms, Chairman; Lt. Cmdr. Dwight L. Wilbur, M.C., U.S.N.R.; H. H. Stage; Prof. Don M. Rees; W. C. Reeves; Nelson H. Rector; Harold F. Gray; M. E. Stewart.

A large part of the final afternoon was given over to laboratory demonstrations of various important mosquitoes, and the demonstration of various materials and equipment.

AN ANNOTATED LIST OF THE MOSQUITOES OF VIRGINIA

By

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Observations on the mosquito fauna of Virginia have largely been made in the southeastern part of the State primarily because such studies usually are associated with control work. Now, as well as in the past decade, mosquito control of all types has been concentrated in the Hampton Roads area. Recently the water chestnut areas of the Potomac in which *A. quadrimaculatus* breeds so abundantly have had the attention of Malaria Control in War Areas authorities.

The following list has been compiled from records obtained from all likely sources within the State, but the number of records in the above areas constitutes well over 90% of the total. This fact should be considered with reference to statements as to species distribution.

Aedes:

- A. aegypti* (L.). Common in Southeast.
- A. atlanticus* D. & K. Fairly common.
- A. canadensis* (Theob.). Fairly common.
- A. cantator* (Coq.). Rare. Larvae found at Camp Peary (C. K. Dorsey); other records probably exist but have not been verified.
- A. dupreei* (Coq.). Rare. Lake Drummond, Aug. 10, 1935. Alan Stone. Also reported from Camp Peary.
- A. fulvus pallens* Ross. Rare. Single female from light trap, Camp Peary. *A. bimaculatus* of authors Pendleton, June 21, 1943, H. P. Nicholson.
- A. mitchellae* (Dyar). Rare in traps in Hampton Roads area. First taken as larvae, 1942. Fairly common in larval collections.
- A. sollicitans* (Walk). Very common in coastal and bay areas; a predominating pest. Taken occasionally in traps at Fort Belvoir.
- A. sticticus* (Meig.). Rare. Woodstock, Feb. 6, 1903, F. C. Pratt, U. S. N. M. det. by H. G. Dyar.
- A. taeniorhynchus* (Wied). Very common in coastal and bay areas; a predominating pest. Taken occasionally in traps at Fort Belvoir.
- A. triseriatus* (Say). Fairly common in some localities.
- A. trivittatus* (Coq.). Rare. Schoolfield, Pittsylvania Co., July 9, 1943, H. P. Nicholson. Waynesboro, Aug. 7, 1943, W. E. Bickley. Probably occurs in Southeast.
- A. vexans* (Meig.). Common and widely distributed.

Anopheles:

- A. atropes** D. & K. Rare. Larvae collected at Onley (Eastern Shore) Sept. 9, 1932, F. C. Bishopp and G. H. Bradley.
- A. crucians bradleyi** King. Common in Hampton Roads area. Very common at Camp Peary.
- A. crucians crucians** Wied. Common in Hampton Roads area and rare in Northern Virginia. Many adults taken in coastal and bay areas are probably **A. crucians bradleyi** King.
- A. barberi** Coq. Rare (Williamsburg area and Princess Anne County). Larvae collected from tin cans in woods.
- A. punctipennis** (Say). Common and widely distributed. Appears to be the most abundant anopheline outside Hampton Roads area except in water chestnut areas of Potomac.
- A. quadrimaculatus** (Say). Common. Most abundant in southeastern Virginia, Eastern Shore and water chestnut areas of Potomac. Doubtless the most common anopheline at many places in Hampton Roads area. Well distributed.
- A. walkeri** Theob. Rare. Taken occasionally in traps in Northern Virginia and Cape Henry.

Culex:

- C. ciliaris** Adams. Larvae fairly common but adults rare.
- C. erraticus** D. & K. Common in large lakes and reservoirs in association with quads.
- C. peccator** D. & K. Rare. Single female reported from Camp Peary, Sept. 1943, C. K. Dorsey.
- C. pipiens** L. very common and widely distributed. Probably the most important pest except in coastal and bay areas.
- C. quinquefasciatus** (Say). Rare. A single male specimen from the Norfolk area has been identified by examination of genitalia (H. P. Nicholson). Preparations of male genitalia, including males reared from questionable larvae have in other cases proven to be **C. pipiens**.
- C. restuans** Theob. Common and well distributed.
Syn. **C. territans** Walk.
- C. salinarius** Coq. Common and well distributed. Very abundant in water chestnut areas of Potomac.

Mansonia:

- M. perturbans** (Walk.). Fairly common. Breeds extensively in Cape Henry area. Collected at widely separated points.

Megarhinus:

- M. septentrionalis** D. & K. Rare. Taken in Hampton Roads area.

Orthopodomyia:

- O. signifera** (Coq.). Rare. Taken in Hampton Roads area and Northern Virginia.

Psorophora:

- P. ciliata** (F.). Fairly common and well distributed.
- P. cenninnis** (L.-A.). Common in Hampton Roads Area. Occasionally a serious pest. Trapped in Northern Virginia.
Syn. **P. columbiae** (D. & K.).
- P. cyanescens** (Coq.). Rare. Rose Hill, Lee Co., Aug. 10, 1943. Single female.
H. P. Nicholson.

- P. ferox* (Humb.). Fairly common in Hampton Roads area and well distributed throughout State.
- P. horrida* (D. & K.). Rare. Woodstock, Aug. 4, 1904, F. C. Pratt, U.S.N.M. det. by H. G. Dyar.
- P. howardii* (Coq.). Fairly common.
- P. varipes* (Coq.). Rare. Princess Anne Co. near Norfolk Airport, July 20, 1943. Four females. Biting. H. P. Nicholson. Camp Lee, July 20, 1943. Single female, biting. E. J. Gerberg.

Culiseta:

- C. inornata* (Will.). Fairly common especially in Cape Henry area. Larvae hard to locate.
- C. melanura* (Coq.). Fairly common and well distributed.

Uranotaenia:

- U. sapphirina* (O.-S.). Common in lakes and reservoirs and in water chestnut areas of Potomac. Thousands taken in traps in Northern Virginia.

SIMPLE FIELD AND LABORATORY TESTS OF LARVICIDES

H. L. FELLTON

The ultimate criterion of the effectiveness of a larvicide is its ability to kill mosquito larvae. A larvicide, properly applied in sufficient quantity to breeding places, should result in effective control of mosquito breeding. When this does not occur, it indicates that something is wrong with the larvicide. Larvicides being used in control operations should be constantly checked, particularly in the field, to determine their effectiveness.

Paris Green

Paris green which conforms to proper specifications as to chemical structure and particle size is known to be toxic to anopheline larvae when applied in very small amounts. Laboratory experiments have shown clearly that amounts of paris green so small as to escape visibility under the hand lens may poison all larvae in a container (Barber). From other laboratory experiments it may be assumed that the minimum lethal dose for fourth instar *A. quadrimaculatus* larvae is less than 0.0000004 gms of paris green.

An approximation of the relative toxicity of different paris green dusts may be obtained as follows: A larva is placed in a Petri dish containing water and observed under a hand lens. When it is feeding well, a very small amount of paris green is carefully applied to the water surface near the larva. As soon as it has ingested a small particle, it is removed by pipette to a second dish, washed, and put into a third where the time of its survival is noted.

Pan toxicity tests may be made to ascertain effectiveness. Ten or more second, third and fourth instar larvae are introduced into a pan partially filled with water, and the larvicide in the same paris green-diluent mixture and at the same rate of application as that to be used in the field is dusted over the surface of the water. An effective paris green should give a complete kill within two hours.

Dosages of larvicide determined by laboratory means are not always effective under field conditions, where the spread of the dust may be obstructed by scum, algae, floatage, and other factors. An effective field dose may be determined by sampling the larval population at specific points in