
SHARP, N. A. D. 1927. Development of Microfilaria perstans in Culicoides grahami: A pre-


A SYNOPSIS OF MARYLAND CULICOIDES
(Diptera: Ceratopogonidae)

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The following is a list of Culicoides of Maryland as gathered from the collection of the U. S. National Museum. Distribution in the United States was compiled from available literature.

One of the earliest records was made by F. C. Pratt in 1907. Foote and H. D. Pratt described the Culicoides of the Eastern U. S. in 1954, and Jammback (1965) the Culicoides of New York State.

Additional data were recorded from regional researches: Das Gupta (1965), Hair et al. (1966), Khalaf (1967), Lewis (1959), Jones (1967), Messersmith (1965, 1966), Pickard (1955), Root and Hoffman (1936), Snow (1957, 1958), Smith (1965), Williams (1955) and Wirth and Blanton (1966). New records of species: Wirth and Jones (1956) and Wirth and Blanton (1956), or breeding sites: Messersmith (1964).

Attention was also given to descriptions of new species or groups of species: Jammback (1963), Wirth and Hubert (1962), Wirth and Jones (1957) and Wirth and Blanton (1967).

Many are new records for Maryland. We would like to express our gratitude to Dr. W. W. Wirth for permitting us to study the National Collection.


La., Texas, Colo., Ore., Mont., Kans., Wisc., Mich., Ill., Ohio, Tenn. MARYLAND RECORDS: Frederick County: Cunningham Falls State Park (Gazeau), Old Mink Farm, Thurmont (Gazeau). Garrett County: Cranesville Pine Swamp (Wirth). Howard County: Glenwood (Gazeau), Montgomery County: Fairland (Hubert), Forest Glen (Wirth). Prince George’s County: Patuxent Wildlife Refuge (Scanlon). Queen Anne’s County: Queenstown (Scanlon), Centreville (Scanlon). Worcester County: Snow Hill (Anderson).


C. debilipalpis Lutz. DISTRIBUTION: Va., Ga., Fla., La., Tenn. MARYLAND RECORDS: Queen Anne’s County: Queenstown (Scanlon). Worcester County: Snow Hill (Anderson).


C. footei Wirth and Jones. DISTRIBUTION: Va., Tenn. MARYLAND RECORDS: Montgomery County: Forest Glen (Wirth). Prince George’s County: Patuxent Wildlife Refuge (Scanlon).

C. furens (Poeay). DISTRIBUTION: Mass., R.I., Conn., N.Y., N.J., Va., N.C., S.C., Ga., Fla., Miss., La., Texas. MARYLAND RECORDS: Prince George’s County: Patuxent Wildlife Refuge (Scanlon). Queen Anne’s County: Centreville (Scanlon), Kent Island (Gazeau), Queenstown (Scanlon).

C. guttipennis (Coquillet). DISTRIBUTION: Mass., Vt., Conn., N.Y., Pa., Va., Ga., Fl., Ala., Miss., La., Texas, Okla., Ariz., Kans., Minn., Iowa, Mo., Wisc., Ill., Ohio, Ky., Tenn. MARYLAND RECORDS: Baltimore County: Plummer’s Island (Barber). Howard County: Cooksville (Gazeau). Montgomery County: Fairland (Gazeau), Fairland (Hubert), Forest Glen (Heidemann), Forest Glen (Wirth). Prince George’s County: College Park (Bishop), College Park (Gazeau). Queen Anne’s County: Centreville (Scanlon).

C. haematopotus Malloch. DISTRIBUTION: Me., Mass., Conn., N.Y., Pa., D.C., Va., Ga., Fla., Ala., La., Texas, Okla., N.M., Colo., Utah, Cal., Nev., Neb., Kans., Wisc., Mich., Ill., Ohio, Tenn. MARYLAND RECORDS: Baltimore County: Plummer’s Island (Shannon), Green Spring Valley (Foote). Frederick County: Catoctin State Park (Gazeau), Cunningham Falls State Park (Gazeau), Old Mink Farm, Thurmont (Gazeau). Montgomery County: Fairland (Hubert), Forest Glen (Wirth). Prince George’s County: Patuxent Wildlife Refuge (Scanlon). Queen Anne’s County: Centreville (Scanlon), Queenstown (Scanlon).


C. hollensis Melander and Brues. DISTRIBUTION: Me., Mass., R.I., Conn., N.Y., N.J., Del., Va., S.C., Ga., Fl., Miss., La. MARYLAND RECORDS: Calvert County: St. Leonard (Barber). Queen Anne’s County: Centreville (Scanlon), Kent Island (Gazeau), Queenstown (Scanlon). Worcester County: Deal Beach (Trembley), Ocean City (Messersmith).

C. loiæae Jammback. DISTRIBUTION:
N.Y., Va., W.Va. MARYLAND RECORDS: Prince George's County: Patuxent Wildlife Refuge (Scanlon).


_C. Ouseairani_ Khalaf. DISTRIBUTION: Penn., Va., Fla., Ala., La., Texas, Okla., Tenn. MARYLAND RECORDS: Montgomery County: Fairland (Hubert). Prince George's County: Patuxent Wildlife Refuge (Scanlon). Queen Anne's County: Centreville (Scanlon), Queenstown (Scanlon).

_C. paraensis_ (Goeldi). DISTRIBUTION: Va., S.C., Fla., Ala., La., Tenn. MARYLAND RECORDS: Baltimore County: Plummer's Island (Zabrowsky), Plummer's Island (Palmer). Montgomery County: Bethesda (Gazeau), Colesville (Hubert), Forest Glen (Wirth). Silver Spring (Hubert).


_C. sanguisuga_ (Coquillett). DISTRIBUTION: Me., Vt., N.H., Mass., Conn., N.Y., N.J., Pa., D.C., Va., N.C., Ga., Wisc., Mich., Ind., Ohio, W.Va., Tenn. MARYLAND RECORDS: Baltimore County: Baltimore (Shannon), Baltimore (Wirth), Plummer's Island (Barber), Plummer's Island (Green), Green Spring Valley (Foote). Frederick County: Catoctin State Park (Gazeau). Montgomery County: Fairland (Hubert), Forest Glen (Wirth), Woodside (Benedict). Prince George's County: Malboro (Barber).


C. _snowi_ Wirth and Jones. DISTRIBUTION: Va., Ga., Fla., Ala., Miss., W.Va., Tenn. MARYLAND RECORDS: Baltimore County: Plummer's Is-


C. *travisi* Vargas. DISTRIBUTION: Mass., Conn., N.Y., Pa., Va., Ga., Fla., Ala., Okla., Colo., Ohio, Tenn. MARYLAND RECORDS: Baltimore County: Baltimore (Root), Green Spring Valley (Foot), Roland Park (Root), Montgomery County: Forest Glen (Wirth). Prince George's County: Patuxent Wildlife Refuge (Scanlon). Queen Anne's County: Centreville (Scanlon), Queenstown (Scanlon).


C. *villosipennis* Root and Hoffman. DISTRIBUTION: Me., Mass., Conn., N.Y., N.J., Pa., Va., Ga., Fla., Ala., La., Texas, Okla., Kans., Iowa, Wis., Mich., Ky., Tenn. MARYLAND RECORDS: Baltimore County: Green Spring Valley (Foot), Sparrow's Point (Root). Howard County: Cooksville (Gazeau), Glenwood (Gazeau). Montgomery County: Fairland (Gazeau), Fairland (Hubert), Forest Glen (Wirth). Prince George's County: Patuxent Wildlife Refuge (Scanlon). Queen Anne's County: Centreville (Scanlon), Queenstown (Scanlon).

References

Archley, W. R., and Wirth, W. W. 1967. A redescription of *C. riggsi* with notes on *C. bickleyi*


