

and middle legs below the coxæ, the femora more or less infuscated, the hind trochanters, and a ring on the base of the hind tibiæ, white. Length, 6 mm.

Habitat.—Sherborn, Mass., Mr. A. P. Morse, collector; Connecticut, Mr. W. A. Nason, collector. No. 5829.

Empria cauta, n. sp.—Female. Clypeus with a median carina, angularly emarginate, with angular lobes; postocellar area not carinate; the ocellar basin wanting, the median fovea a pin-hole pit; the ocellar and interocellar furrows faint; the third segment of the antennæ longer than the fourth; the saw-guides convex above and oblique below, roundly truncated at apex; the body black, with the clypeus, labrum, collar, tegulæ, front and middle trochanters, and the hind tibiæ and tarsi, white. Length, 6 mm.

Habitat, Ithaca, N. Y.

(To be continued)

DANIEL WILLIAM COQUILLET.

A gap in the ranks of active entomologists and a feeling of personal loss to all who knew him has been created by the death of Mr. D. W. Coquillett, of the United States Bureau of Entomology and National Museum, who died at Atlantic City on July 8th.

In systematic entomology he had a knowledge of Diptera as wide as it was unique; in economic entomology he has the credit of being the first to discover and demonstrate the value of hydrocyanic acid gas as an insecticide.

Born in 1856, near Woodstock, Ill., we find him in 1880 contributing an article on "Larvæ of Lepidoptera" to Prof. Cyrus Thomas's Tenth Illinois Report, and a "Report on the injurious insects of Northern Illinois" to the Illinois State Entomologist's Report of the following year. In 1881 he became assistant to the State Entomologist of Illinois. Later, on account of his health he removed to Los Angeles, California, and while there he joined the staff of the United States Bureau of Entomology, in 1885, as field agent in the work on the Scale *Icerya purchasi* Mask. The results of this work during the succeeding two or three years were of such a nature as to secure for him a singular distinction as an economic entomologist. He communicated to Prof. W. G. Johnson the circumstances attending his chief discovery. "During the summer of 1886," he wrote, "I was employed by the United States Department of Agriculture to carry on a series of experiments at Los

Angeles, California, against the Cottony Cushion Scale (*Icerya purchasi*), but owing to an insufficient appropriation I was laid off on August 1st of that year. As no perfect remedy at that time had been discovered, I determined to experiment with gases in a private capacity, at my own expense. Accordingly, during the first week of the following month I began experimenting with hydrocyanic acid gas, which I thought would be the best for the purpose, owing to its very poisonous qualities, the rapidity of the generation and the readiness with which it diffuses itself in the air. Nobody suggested to me to try this gas. It was not until the following July that the Department of Agriculture again placed me on its rolls." Dr. Howard has called my attention to the fact that Mr. Coquillett had entire charge in California of the first importations of the parasites of *Icerya purchasi* which were sent over from their native haunts in Australia by Mr. Koebele and were received, bred and distributed by Mr. Coquillett. He received the first importations of *Novius (Vedalia) cardinalis* in 1887 and in the following year commenced to distribute this important Coccinellid enemy of the Scale. He acted as field agent of the United States Bureau of Entomology until 1893 when he joined the staff of the Bureau and he remained an active member of it until his death.

In 1896 he was made Honorary Custodian of the Diptera in the United States National Museum and this was only in accordance with the nature of his work which was now of a systematic character. His knowledge of the Diptera of North America and his intimate acquaintance with the very diverse families of this difficult order, to which his published works testify, gained for him not only a continental but a world-wide reputation. Students of North American Diptera will feel his loss exceedingly.

His connection, as a contributor, with THE CANADIAN ENTOMOLOGIST is of more than ordinary interest, as he contributed, I believe, more papers to this journal than to any other scientific periodical. A paper "On the early stages of some Moths," published in 1880, in Volume 12, was one of his earliest scientific papers; it may have been his first. His first paper on Diptera was "On the early stages of the Dipterous Fly *Chrysophila foeda* Loew.," published in 1883, in Volume 15. His last contribution was made in February last, and I have a happy recollection of a conversation I had with him when visiting Washington in April. Little did I think that we should be deprived so soon of one who for over thirty years had contributed to these pages, and was ever ready to assist us in the study of Canadian Diptera.—C. GORDON HEWITT.