

Diptera, as a whole, has a very slight faunistic value, and as bearing further upon the modern extraordinary distribution of species by the agency of commerce. Among the nineteen species only four were new, and one other seemed to be peculiar to Hawaii. Ten of the species were practically cosmopolitan; one had previously been found in Australia; one had a general distribution in Oceanica, and one had been known previously only from Keeling Island, near Sumatra. The full list of these Diptera is as follows:

**DIPTERA COLLECTED IN HAWAII BY H. W. HENSHAW.**

By L. O. HOWARD.

*Sargus* n. sp.? Five specimens.

*Psilopus* sp. Two specimens.

*Eristalis tenax* Linn. Eight specimens. Almost cosmopolitan.

*Syritta oceanica* Macq. Four specimens. Described from Oceanica, New Zealand, and Tahiti.

*Xanthogramma grandicornis* Macq. Two specimens. Described from Australia.

*Stomorphina pleuralis* Thomson. Two specimens. Described from Keeling Island, near Sumatra.

*Phormia regina* Meigen. Four specimens. A European species also occurring over nearly the whole of the United States.

*Lucilia cæsar* Linn. Three specimens. Same distribution as the preceding species.

*Calliphora vomitoria* Linn. One specimen. Same distribution as the preceding, but much rarer.

*Lucilia*, 2 species, ten specimens.

*Musca domestica* Linn. One specimen. Cosmopolitan.

*Stomoxys calcitrans* Linn. Two specimens. Nearly cosmopolitan.

*Hæmatobia serrata* Desv. A European species which also occurs over the southern portion of the United States. Five specimens.

*Homalomyia canicularis* Linn. Two specimens. A nearly cosmopolitan species.

*Ophyra leucostoma* Wied. Four specimens. A European species, occurring over the greater portion of the United States.

*Dacus cucurbitæ* Coq. Five specimens. Described from Hawaii.

*Drosophila* n. sp.? Nine specimens.

*Brachydeutera argentata* Walk. Three specimens. Occurs over the southern portion of the United States, at least as far westward as Kansas; also in Cuba.

—Dr. Gill spoke of the fauna of Hawaii and said that the bird fauna indicated a relation to that of South America. The only original mammal (a bat) is related to North American forms. The shells, of which the family Actinellidæ form the bulk, are characteristic but are supposed to be more nearly related to the Pacific island forms west of the Hawaiian archipelago. The reptiles are all lizards and are all most nearly related to Asiatic forms. Mr. Ashmead considered the Hymenoptera of Hawaii to be related to the Indian fauna, and Dr. Dyar stated that the Lepidoptera, aside from the introduced species, appear to be most nearly related to Asiatic forms. Mr. Currie said that aside from one species from the United States and one from the United States and West Indies the Odonata were most nearly related to Asiatic forms.

—Dr. Stiles spoke briefly of a recent trip in the West to investigate parasites of domestic animals. He had studied *Æstrus ovis* particularly. He finds, contrary to the accepted views of entomologists and veterinarians that this species is a very dangerous enemy to sheep. In some large flocks at least 25 per cent. of the animals were affected, and after conducting a number of post mortems he was convinced that in many cases this species causes the death of the animal. The loss to farmers has undoubtedly been greatly underestimated by scientific men. He considers trephining for the maggots impractical, and has adopted a course of treatment which he thinks will prove important. He inserts an awl into the frontal sinus and through a trochar injects kerosene or gasoline. In case of gasoline poisoning he finds aromatic spirits of ammonia or sulphate of strychnia a good remedy, since gasoline is a heart depressant. He found the sheep tick, *Mallophagus ovinus*, to be very common in Colorado, where in one place at least it was introduced on bucks imported from Canada. So abundant was it occasionally upon young lambs that 100 or more would be found in a space the size of one's hand. Considerable loss results from the abundance of this so-called tick, but the insect is perfectly easy to treat by means of the ordinary sheep dips which need not be applied hot, but are effective when cold. He had been greatly impressed by the damage done by the screw-worm fly (*Lucilia macellaria*) to herds of cattle in the southwest. Their attack frequently follows the attacks of the

cattle tick, and on all large ranches men are employed especially to treat this insect continuously. He had seen a skin pocket on a steer which contained more than 100 larvæ. It is easy to treat such cases either with cresylic acid or some other wash, and they may be often washed out with water. In the case mentioned he washed the maggots out with water with the most perfect ease. What is needed, however, to prevent immediate reattack by the flies is some wash with collodion or something which will immediately dry up the sore surface so as to not attract the flies.

—Dr. Gill showed a book on natural history which he had studied when a boy 8 years of age, and which, while very crude and very inaccurate, had at that time possessed great interest to him. It was entitled, "A Natural History of the Most Remarkable Quadrupeds, Birds, Fishes, Serpents, Reptiles, and Insects," by Mary Trimmer, Boston, S. G. Simpkins, 1845. He called attention to many curious classificatory statements in the book, for example, showing that one tortoise was included among the quadrupeds, another among the reptiles, and a third among the fishes.

—Mr. Currie then read a paper entitled, "Some Rare Odonata from Washington and Vicinity." He exhibited and commented upon 9 different species which he considered rare, stating that 65 species in all have been found in the District of Columbia.

In discussion, Dr. Gill stated that in his opinion the sub-orders of Odonata established by Dr. Calvert are misnamed "sub-orders" He would give them super-family rank, and considered that their separating characters were by no means of sufficient importance to entitle them to the term sub-orders. Groups of that value should approach much more nearly to ordinal rank.

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NOVEMBER 1, 1900

The 155th regular meeting was held at the residence of Mr. Wm. H. Ashmead, 1825 Q st. N. W. President Gill occupied the chair, and Messrs. Chittenden, Heidemann, Chapin, Dyar, Busck, Morris, Waite, Johnson, Currie, Caudell, Ashmead, Howard, Pollard, Marlatt, Benton, De Schweinitz, and Hay, also present.

—Under the head of Short Notes and Exhibition of Specimens,