

SYMPHOROMYIA AS A BLOOD-SUCKER.

(Diptera, Leptidæ.)

BY FREDERICK KNAB and R. A. COOLEY.

When preparing his paper on blood-sucking Leptidæ* the senior author was unable to find more than the single original observation, by Osten Sacken, of the biting habit in *Symphoromyia*. As the result of conversation, during the last meeting of the American Association for the Advancement of Science, and subsequent correspondence, Professor Cooley sent him specimens taken in the act of biting, together with the notes reproduced below. Three specimens with the number 143 attached, taken at Sedan, Montana, July 1, 1906, are all females of the same species. The material came to hand too late to be incorporated in the above-mentioned paper.

As it is evident that the blood-sucking habit in *Symphoromyia* is confined to certain species, perhaps a single one, the determination of specimens that have actually bitten is of considerable interest. There was some difficulty in determining the specimens, as it proved that *Symphoromyia* is systematically in a rather unsatisfactory condition. However, the specimens fit very well the description given by Williston for the female of his *Symphoromyia pachyceras*. The proximity of the two regions, northern California for Williston's specimens and southwestern Montana for Professor Cooley's, make the agreement reasonably probable. Whether Osten Sacken had the same species under observation probably can only be determined by examining the original specimens, if these are still in existence. We have been unable to trace the locality, Webber Lake, California, given by Osten Sacken, and, moreover, we know very little of the distribution of the species of *Symphoromyia*. Attention must be called to the fact that the specimen standing as *S. pachyceras* in the National Museum collection, and upon which Coquillett based his diagnosis, are not Williston's species. This is evident from the shining black abdomen. Williston describes his species as "gray pollinose," indicating this condition for both thorax and abdomen; in this the Montana specimens agree. The color of the third antennal joint, palpi, and legs, which have been freely used in differentiating the species of this genus, are, as might be expected, subject to some variation which probably depends not only upon age, but also upon food.

There is considerable diversity in the mouth-parts of different species of *Symphoromyia*. The specimens taken by the junior author have rather short mouth-parts with a broad,

*This volume, pp. 108-109.

fleshy labial sheath which evidently can be retracted, similarly to the sheath of mosquitoes; this sheath is very thick at the sides and there is a central depression in which the other mouth-parts lie. The piercing parts are strongly chitinized and the maxillæ are clothed on their ventral surfaces with minute stiff hairs which on the apical half become transformed into barbs, densest and stoutest at the apex. In *Symphoromyia cruenta* Coquillett the mouth-parts are much longer, the labial sheath much more slender, apparently for the most part well chitinized, and closely surrounds the other parts, which are only exposed through a narrow dorsal slit. The maxillæ are smooth to near the apex, where there is a dense group of strong barbs. Coquillett in his "synopsis" already indicated this difference, but used the erroneous and misleading term "labella" to indicate the mouth parts. It has been thought advisable to keep Professor Cooley's notes on *Symphoromyia pachyceras* intact, and they follow herewith over his own signature.

—FREDERICK KNAB,

We have repeatedly taken a species of *Symphoromyia* in the act of taking blood. They have always attacked me on the hand and they inflict a painful wound. The first time I was bitten by one I slapped with the same caution that I would a mosquito, lest it should escape, but I soon learned that this is unnecessary, for one can pick them up with the fingers as he would an inert object. In fact, you may poke them around with the finger without causing them to fly. They come and alight almost silently and generally come singly. Our note on this species is as follows:

NOTE 143.—Troublesome blood-sucking fly. Causing swelling. Very painful. Fly is silent when alighting.

It is my impression that this is distinctly a mountain form; that is, we do not find it in our large open valleys, but only in mountainous places.

—R. A. COOLEY.