"THE MINNESOTA FLY TRAP"

By F. L. WASHBURN, *Experiment Station, St. Anthony Park*

We have found the trap described herewith a valuable auxiliary in reducing the number of flies where these occur in large quantities.

Fig. 7. General View of Trap

The trap is twenty-four inches long, twelve inches high and eight inches wide. It has been given a thorough test this summer with most satisfactory results. Whether the traps are rectangular or oval

Fig. 8. The three parts of trap separated to show construction. The upright pieces at the ends are not a part of the trap.

seems to make no difference as regards their efficiency. The screen used is ordinary wire mosquito screen and that and the small amount of lumber required made each trap cost us 41c. for material. Made in large numbers the cost would be very much less. A skillful carpenter could easily construct this apparatus in two or three hours. The upper oval part (c) serves as a receptacle which the flies enter through the opening in the top of the middle portion (b) made of screen and shaped like the roof of a house. Under this is the base board (a), upon which rest two tin bait pans. The space between the baseboard and the middle portion is about one-half inch, and between this and the bait pans through which flies enter pans, about one-fourth of an inch.

The record made by one of these traps is in part as follows:

Rear of dining hall on campus, two days, 3000 flies

Dairy Barn, one day, 1700 flies.

Rear of dining hall, five days, 13,000 flies

Same place, three days, 6000 flies

Same place, one day, 4200 flies

On back porch of a dwelling not far from a stable

where a few horses are kept, two days, 8700 flies

Same place, one day, 12,000 flies

Same place, one and a half days, 18,800 flies

Fig. 9. Cross section of trap.

Bait: This is an extremely important factor in the use of this trap, and we find we have to qualify to a certain extent previous recommendations in this regard. Ordinarily, we believe that bread and milk, frequently renewed, is the best bait for this and other fly traps, but under certain conditions, this is not as attractive as it might be. For example: We loaned one of these traps to a dining hall association

on the State Fair grounds¹ this month to be used in the kitchen. It was found that waste, stale meat thrown into a box was more attractive to the flies than bread and milk in the trap. This was overcome by putting small pieces of the stale meat in the pans with the bread and milk and the receptacle of the trap was soon swarming with thousands of flies.

The flies, which gather in the upper part or receptacle, should be killed by immersing that part of the trap in hot water or pouring boiling water over it, or in any other way not injurious to the trap. The dead flies may be emptied out of the trap, the bait renewed and the trap reset.

We have been so pleased with the success of this contrivance that we have proposed for it the name which is used at the head of this article.

ARTHROCNODAX OCCIDENTALIS N. SP. (DIPT.)

By E. P. FELT, *Albany, N. Y.*

The small, yellowish species described below and easily separated from other American forms by the emarginate ventral plate, was reared July 15 and 30, 1912, by H. J. Quayle of the Division of Entomology, University of California, Berkeley, from larvæ preying on red spiders, *Tetranychus* species.

Male. Length 1 mm. Antennae a little longer than the body, thickly haired, pale straw, yellowish basally; 14 segments, the fifth having the stems with a length 2 1-2 and 3 1-2 times their diameters. Palpi; the first segment short, irregular, the second with a length over twice its width, the third 1-2 longer than the second, the fourth a little longer than the third, slender. Mesonotum fuscous yellowish. Scutellum and postscutellum yellowish. Abdomen pale yellowish, with a reddish orange spot basally. Halteres yellowish transparent. Wings hyaline. Legs mostly pale straw, the distal tarsal segments somewhat darker; claws slender, evenly curved, the pulvilli as long as the claws. Genitalia fuscous yellowish, both dorsal and ventral plates triangularly emarginate, each with the lobes sparsely setose apically. Type a 2328.