

narrow, and well defined; scutellum not visible; humeri in *Thaenosternus* prolonged forwards, so as to extend along the sides of the prothorax. Dorsal segments membranous, last one large, coriaceous, divided into two in ♂: ventral segments unequal, 1st and 2d very large, more closely connected, suture arcuated: 3d and 4th short, sutures deep, 5th as long as the two preceding; lateral extension moderately wide, wider behind, pygidium articulating with both 4th and 5th ventrals. Legs slender, tibiae truncate, spurs small, tarsi 4-jointed, narrow, setose beneath.

Several species of *Thaenosternus* are found in the interior regions of the continent, from Illinois to Utah, under dried buffalo excrement, and similar objects.—To be concluded.

OBSERVATIONS ON DROSER A FILIFORMIS.

BY WM. H. CANNY.

SOME observations on the power of the insect-trapping "thread leaved sundew" to bend its leaves partly or wholly about its prey, may serve to supplement the interesting notes of Mrs. Mary Trent recorded in the December number of the *AMERICAN NATURALIST*. They were made about the middle of last August during a day's botanical excursion in the vicinity of "Pleasant Mills," New Jersey, and were suggested by Mr. Darwin in the following memoranda:

(1.) "Put a small atom of crushed fly on a leaf of *Drosera filiformis* near the apex and observe whether the solid leaf itself, after twenty-four hours or so, curls over the fly."

(2.) "Rub roughly with the point of a fine needle half a dozen times a few glands, and observe whether they become inflected after a few minutes, or more probably after a few hours."

The place selected for the experiments was the edge of a cranberry meadow exposed during the whole day to the sun, and yet protected by higher ground and trees from the wind, which otherwise might have prevented successful results by blowing and entangling the leaves together. Hundreds of the plants were here growing, most of their leaves being fully extended, while others were yet unfolding from their circinate venation. At 7

A.M. bits of the common house fly were placed near the apices of a number of leaves, and these were carefully marked in order to distinguish them from the great number of those which had already captured insects or might during the day make a prey of others. They were not visited again until about 7 P.M., the exigencies of botanical collecting taking my companion and myself several miles away. At another place, however, I had an opportunity to corroborate Mrs. Treat's remark upon the power of the leaves to make prisoners of large flies; for I witnessed the capture of a large and strong dipter,—a desperate struggle ensuing which resulted in the prey being permanently held.

On returning in the evening it was found that in the twelve hours which had elapsed, not only had the glandular hairs around bent towards and touched the wings of fly, but that also in every case the leaves themselves had bent over them. My sketches, made by laying the leaves upon paper and thus getting their exact outline, show a remarkable uniformity in the amount of inflection; it being in each case between 15° and 20°, mostly about 17°. These experiments were further corroborated by observations upon the leaves around, many of which were much more bent, undoubtedly from having held the prey a longer time. In one case indeed, where the capture had evidently been made near the tip of a fully unrolled leaf, it had again curled round the prey so as completely to encircle it.

So far as the limited time available permitted the observation, I could not perceive that it made much difference in the amount of inflection, upon what part of the circumference of the leaf the prey was taken. But if anything the back or outer side was less sensitive.

As regards the irritation of the glands with a needle the results were entirely negative both in the morning and evening, though it is possible some sensitiveness might have been shown if the experiment had been tried during the noonday heat.

The meagre notes of a traveller made during a single day's observation are of course neither so full nor reliable as might be obtained by one living on the spot and with time at command. I believe further and accurate observations of the habits and functions of this very curious plant would be well repaid by the interesting results obtained.