absorption. Dr. Gilbert (p. 5) gives the amount of ammonia which falls in rain and minor aqueous deposits per acre at Rothamsted as 6·46 pounds per annum. Boussingault[1] found ·00079 grm. per litre of ammonia in rain water in the country districts of France. In dew he found as much as from ·001 to ·006 grm. per litre. The average of three analyses here given of the amount of organic matter in rain water is ·028 grm. per litre. Is it not possible that some of this organic matter (which causes rain water to putrify when kept) may be absorbed by the filaments? On the whole, it does not seem impossible that a plant should derive benefit from the nitrogen in the rain and dew which falls on its leaves.

Conclusions.

The following is a summary of the results which I believe to be established on a reasonable basis of probability:

1. That the filaments are not parasitic organisms, but are the normal productions of a particular form of glandular trichomes on the leaves of the seedling and second-year plants.
2. That they consist of protoplasm in some way intimately connected with resinous matter.
3. That the function of the protoplasmic portion of the filament was originally to assist in the act of secretion, but that it has been subsequently utilised by the plant as a mode of nutrition.
4. That the protoplasmic filaments have the power of absorbing nitrogenous matter, and that in the seedlings they probably absorb ammonia from the rain-water and dew. In the adult plants they absord the products of the decaying insects for the capture of which the plant is adapted.
5. That some obscure correspondence may exist between the protrusion of the filaments and the process of aggregation.

Note to Mr. Francis Darwin's Paper.

I beg leave to say that I have witnessed almost all the facts described in the foregoing paper, and can vouch for their accuracy. To the best of my judgment, the whole case is a most remarkable one, and well deserves the attention of physiologists.

Charles Darwin.

[1] 'Watts' Dict. of Chemistry,' v, p. 1014-15.