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BUTTERFLY WING STRUCTURE.

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Since the season of 1894 (when I first discovered that the upper and lower membranes of a butterfly's wing could be separated), I have had a desire to test the accuracy of the conclusions reached by me at that time; so with the remarkable profusion of *Anosia (Danais) Archippus*, Fab., in the season of 1899, I was able to secure such an abundance of material to work with that I could repeat the observations until every doubt was satisfactorily settled. I shall only give here a brief statement of results reached, as a full account of the various processes will be published in the forthcoming Annual Report of the Society for 1899.

When a wing is fully expanded, and for an hour or two after, the membranes can be easily separated. Entrance for a pin-point between them is to be found at the base of the wing where the subcostal and median nervures come close together. The membranes are united at the costal and inner edges, which have to be cut to get them apart; but they are free at the outer angle. At that time the nervures are in two parts, half in one membrane and half in the other, and open in the centre. The fluid which has been stored up in the pupa enters the winglet at the opening referred to, expanding the membranes as it passes along between them, and the nervures at the same time, and when it has extended to every portion of the wing, then it is fully expanded. The expanding fluid is of a gummy consistency, and as it dries, cements the membranes together, also the edges of the half-nervures, and produces the hollow tubes with which we are so familiar. The photograph for the plate was taken by Mr. R. W. Rennie, of this city, and is an admirable example of amateur photography.

DESCRIPTION OF PLATE 6.

Fig. 1 shows the inner sides of upper and lower membranes of a front and hind wing.