

verified the statements made by Williamson in Section DD of his analysis, but, in fitting my model together, I found that the parts mentioned by him here must necessarily be related in exactly the manner described.

As stated by Williamson in Section BB, "The female, by drawing the hind lobe of the pronotum against the mesostigmal laminae, prevents the escape of the male." In the case of *Argia moesta putrida*, the result of this action is that the two pairs of appendages of the male are drawn together and it can readily be seen by examining the figures that in such a position these appendages are incapable of being shifted in any direction, and hence escape of the male is impossible unless permitted by the female.

The mutual adaptation of these structures in the two sexes is so precise that it seems improbable that copulation could take place between different species of *Argia*, even though very closely related.

#### EXPLANATION OF PLATE VIII.

Fig. 1.—Position of the abdominal appendages of the male in relation to the thorax of the female in copulation.

Fig. 2.—Posterior view of end of male abdomen.

Fig. 3.—Dorsal view of parts of the pronotum and mesoepisternum of the female.

Fig. 4.—Semi-diagrammatic combination of figures 2 and 3, showing the relative positions of the parts in coupling. The parts of the male are indicated by dotted lines.

S. ap., superior appendage of male; i. ap., inferior appendage of male; p. i. ap., posterior surface of same; v. i. ap., postero-ventral surface of same; h. terminal hook of same; m. t., tubercle which engages the cavity between the forks of the dorsal thoracic carina; v. t., viscid lateral tubercle; m. p., middle lobe of pronotum of female; h. p., hind lobe of pronotum of female; d. c., middorsal thoracic carina; ms. l., mesostigmal lamina of female; ms. t., mesoepisternal tubercle of female.