

- (2) *A. Forbesii*, Rob.—♀. April 19. Beside the colour of the pubescence, *Forbesii* is distinguished from *rugosa* by the smaller and more numerous ridges on the base of the metathorax; about 20 in *Forbesii*, about 12 or 14 in *rugosa*. The abdominal hair-bands of *Forbesii* may be practically obsolete.
- (3) *A. Cressonii*, Rob.—♂, April 30; ♀, April 19. The ♂ is not quite typical in the face-markings.
- (4) *A. bipunctata*, Cress.—Many males, April 19 to May 18.
- (5) *A. vicina*, Sm.—April 21 to June 18. Very many. None are var. *errans* (*A. errans*, Sm.). At Olympia, Washington State, Mr. T. Kincaid takes the typical form and var. *errans* together, the variety being the most numerous.
- (6) *A. fimbriata*, Sm.—♀, Sept. 9 and 15. ♂, Sept. 9. The male is smaller and more slender than the ♀; face wholly dark, with long yellow hair; flagellum faintly ferruginous beneath; process of labrum bifid; apex of abdomen with yellowish-white hair; pubescence of legs pale.

BOOK NOTICE.

SOME CONSIDERATIONS ON THE NATURE AND ORIGIN OF SPECIES.—By J. W. Tutt, F. E. S.

This is the title of the presidential address delivered before the City of London (England) Entomological and Natural History Society, December, 1897, published in a pamphlet of 20 pages. Mr. Tutt interestingly reviews the recent theories as to the causes of species formation, touching on the presence of variation in organic beings, action of natural selection, origin of local races by adaptation to differing environment, etc., and comes to the conclusion that all generic and specific characters are due to the past or present action of natural selection. Comparatively fresh points are made in that specialization of genital organs does not necessarily accompany other specialization, and that isolation may be brought about by difference in time of emergence, difference in habit or in the hours of mating, as well as by geographical conditions.

Mr. Tutt does not believe that climate, food, sexual selection (in insects at least), isolation or laws of growth can produce specific characters; all such must be utilitarian. This is the position so ably defended by Wallace, but nevertheless certainly untenable.

The reviewer would refer Mr. Tutt to the case of *Datana*, where all the specific characters seem so evidently due to the action of isolation alone, as most recently lucidly explained by Romanes. In this case the isolation is due principally to different food plants.

HARRISON G. DYAR.