

at the time they required them, so that they could have begun the work early in the season and continued employing, from year to year, those assistants who had been taught, at an expense of much time and trouble, what was required of them.

J. FLETCHER.

Mittheilungen aus dem Roemer-Museum, Hildesheim. No. 6.—Juni, 1896. DIE SATURNIIDEN (Nachtpfauenaugen), von A. Radcliffe Grote, A. M.

This paper of 28 pages is illustrated by three plates and eighteen cuts. The illustrations are from photographs of living moths and are remarkably fine. The author defines the superfamily Saturniides and gives a table separating the families and a number of genera. The value of this table is unfortunately vitiated by the curious spacing, which renders it practically impossible to follow it.

The Saturniides are divided into two families, and each of these into three subfamilies. The Endromidæ, Bombycidæ, and Lacosomidæ are shown not to belong to the group, principally on larval characters. The relations of the Sphingidæ are also briefly discussed. Following are remarks on parthenogenesis and hybridization in the group, a discussion of the subfamilies adopted, geographical distribution, nomenclature, certain corrections to the author's previous paper on the Apatelidæ, and a list of European and North American Saturnians.

No fault is to be found with the classification which the author has worked out, regarded as an artificial grouping. A certain character of venation is selected (position of vein  $IV_2$  on primaries) and the groups referred strictly by this character. A natural classification, which should combine several such special ones, is not attempted. As compared with the reviewer's classification on larval characters, the position of the groups represented by Hemileuca and Aglia are transposed. Mr. Grote must, therefore, suppose that the larva of Aglia is derived from a Citheronia type independently of the Saturnia branch. The larva should have re-acquired the pair of anal tubercles which are already entirely lost in Citheronia, and lost the unpaired tubercle on joint 13. He must also suppose that the stinging spines have been twice separately evolved in the group. On the other hand, to reconcile his grouping with mine it is only necessary to suppose that vein  $IV_2$  has moved toward  $IV_1$  in Hemileuca separately from the types of Attacus and Saturnia, where this process is congenital.

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