

NOTES ON THE SPECIES OF PHÆOCYMA, FOUND IN CANADA.

By JOHN B. SMITH, Sc.D., RUTGER'S COLLEGE, NEW BRUNSWICK, N. J.

The species of *Homoptera* were studied by the Rev. C. J. S. Bethune in 1864, and the North American forms were listed and described in the *Canadian Journal*, Vol. X, for 1865;—a publication not easily gotten hold of at the present time. Most of the material came from Port Hope, Canada, and several new forms, from that locality, were described. That paper forms the basis of our knowledge of the American forms to-day, and as I have just finished a revision of the species from fuller material than was available over 40 years ago, a few notes on the species found in Canada or likely to be found there, may not be amiss.

And first, the name *Homoptera*, Bdv., must fall in favor of *Phæocyma*, Hbn., an earlier name for the same generic concept and *Ypsia*, Gn., comes under the same head. *Zale*, Hbn., differs only on minor points and secondary sexual characters; but may be retained as a section of *Phæocyma* in a subgeneric sense.

P. LUNATA, Drury. Occurs throughout the Dominion east of the Rocky Mountains, after midsummer and until late fall. This is the largest of the species and extremely variable in colour and maculation. The males are more or less marked with blue and may have the entire terminal area blue powdered, and that is the form described as *edusa*, by Drury, the female having been first described as *lunata*. There is a form occurring in both sexes in which the median area is decidedly yellowish, and that was described as *saundersii* by Dr. Bethune.

P. UNDULARIS, Drury. Redescribed by Dr. Bethune as *nigricans*, which is quite as appropriate a name; for the species is intensely black, besides having the wings crossed by undulating lines. I have seen specimens from the eastern provinces only; but the range is probably as great as that of the preceding species, though it is much less common. It flies in June and July. The variety *umbripennis*, Grt., differs in having the median area of primaries much lighter, with a violaceous tint.

P. ÆRUGINOSA, Guenée. Similar to the preceding and occurs with it; but is much rarer. It differs in having an irroration of green or bluish scales and in structure as well.

P. NORDA, Smith. A very brilliant species from Kaslo and other points in British Columbia and Manitoba; the type material coming from Mr. J. W. Cockle of Kaslo. It ranges