

Entomology Research Institute, Department of Agriculture, Ottawa. Perching records from these collections are shown in Table 1.

The presence of larvae and pupae of *P. schwarzi* and *P. curriei* in the root collars of western white and lodgepole pine, and teneral adults of

P. schwarzi in the root collars of blue spruce establishes new host records for both species. The perching records indicate that the weevils are active over a large part of British Columbia and may have more hosts than has yet been determined.

***Altica tombacina* MANNERHEIM (COLEOPTERA: CHRYSOMELIDAE),
A SERIOUS PEST OF FIREWEED**

M. D. ATKINS¹

Fireweed, *Epilobium angustifolium* L., provides the main honey crop for apiarists who move their bees from spring to summer foraging areas. This practice of migratory beekeeping is common among both large and small beekeepers on Vancouver Island. The colonies are overwintered in areas where the climate is moderate and where early blooming plants provide the necessary nectar and pollen for early and rapid buildup of the hives. Later, the bees are transported to logged areas where dandelion, *Taraxacum* sp., and fireweed, bloom in profusion throughout the summer and early fall. Profitable honey production depends largely upon the health of the fireweed and if conditions are suitable crops in excess of 200 pounds per hive are common.

In July, 1964, a local apiarist notified me of an area where the fireweed was suffering heavy damage as a result of a high population of small black larvae. These were identified as the immature stages of a flea beetle, *Altica tombacina* Mannerheim. Eggs and several larval instars were present on the plants at this time. Warm weather during the third week of July which would normally have resulted in an excellent honey flow, accelerated the development and feeding of the beetle larvae. Within a few days the

fireweed was severely defoliated. Approximately two thirds of the plants over an area of about ten square miles were damaged, many to the extent illustrated in Figure 1.

All of the larvae brought into the laboratory in July pupated during the first week of August so the infestation was revisited on August 10. At that time the number of larvae feeding had declined noticeably, but was still from 70 to 200 per stalk. No other species of plant was heavily damaged, but evidence of light feeding and a few larvae were found on young roadside alders.

During the August 10 visit, an examination of representative hives among the 200 distributed throughout the infested area revealed that almost no excess nectar had been gathered and most of the foraging bees were visiting dandelion. Subnormal weather had also affected honey production, but sufficient suitable flight weather had occurred to produce some capped honey. An area of the size infested could normally support 1,000 colonies on a commercial basis. In 1964, the 200 hives present produced much less honey than could be expected. The loss of revenue to the beekeeper that could result from such an infestation is difficult to evaluate, but there is little doubt that as the competition for fireweed areas grows more acute, *Altica* could be an important factor in commercial honey production.

¹ Forest Entomology and Pathology Laboratory, Victoria, B.C.



Fig. 1.—A healthy stalk of fireweed and one damaged by larvae of the flea beetle *Altica tobacina* Mannerheim.

EDITOR'S NOTE

A newly set and bound second edition of the Style Manual for Biological Journals appeared in 1964, published by the American Institute of Biological Sciences. The 1960 edition ran through two printings. Since this society voted to adopt the AIBS Style Manual at the 63rd annual meeting at Kamloops, in March, 1964, it is fitting that the new edition be drawn to the attention of contributors.

In the new preface the committee points out that the most extensive

changes are in the abbreviations of words used in literature citations. These are in line with the policy proposed by the American Standards Association. Their adoption represents another step forward and away from the maddening diversity of styles that formerly wasted the time of authors and editors.

Contributors with access to the Manual should by all means use it. For those to whom it is not available, the Manual is an unequivocal reference and arbiter for editors and reviewers.